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ORIGINAL CONTRIBUTIONS.

GASTRIC CANCER.

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Pathology.—In the vast majority of cases a well defined tumor of any part of the stomach is a carcinoma, and this disease may also take the form of a diffuse infiltration or an ulceration. One of my patients presented small tumors of both orifices of the stomach, so that we abandoned radical operation after the abdomen was opened and made a nesteostomy (incorrectly called jejunostomy); she survived the operation, and is in good health. Obviously, such tumors, so far absorbed as to allow free passage of food and chyme, cannot be cancerous. The differential diagnosis of tuberculous, syphilitic, sarcomatous, and benign neoplastic lesions is purely circumstantial and histologic. Every gastric tumor must be considered cancerous till proved otherwise.

It is unnecessary to consider the morbid histology of gastric cancer. A thoroughly satisfactory classification of carcinomata must be based on the derivation of epithelium from the various blastodermic membranes, but this has not as yet been done, nor do we know whether the metastasis of cancer crosses from one membrane to another. I have seen personally only two cases of gastric cancer which presented cancer of remote parts. In one, cancer of the cardia followed one year after removal of a mammary cancer; in the other, a hard pyloric tumor developed ten years after the removal of both breasts for malignant disease. Both patients were women of about fifty-five. In the former there was coincident local récidive; in the latter, not.

Etiology.—Generally speaking, gastric cancer neither tends to produce nor to be produced by cancer at a distance. The pylorus, pancreas, duodenum, liver, and adjoining lymphatic and connect-

ive tissues are likely to be involved in one large growth, which is probably usually primary in the stomach. In inverse proportion to the amount of connective tissue in a cancer, metastasis along lymphatic channels is to be expected. The stomach is the site of about twenty per cent of all cancers in men and of about the same proportion of the eighty per cent of cancers in women left after deducting uterine cancers. If we exclude uterine cancers, the stomach is more liable to cancer than all other viscera together. This is doubtless due to the fact that its epithelium is more liable to mechanic, thermic, and chemic irritation than any other non-squamous epithelium. Of the various pathologic lesions to which the stomach is liable, including the so-called chronic functional disorders, most of which probably have an organic basis, none predisposes to cancer in a recognizable degree except ulcer, and this to no very great proportional degree. From the practical standpoint it is rarely possible to assign gastric cancer to any preëxisting lesion or to apply our meager guesses at etiology in a prophylactic way. In our present state of knowledge we might as well regard the incidence of gastric cancer as due to fate.

Symptomatology and Diagnosis.—The symptomatology of gastric cancer depends upon its exact location, extent, and the preëxisting or subsequent lesions and perversions of function. Any symptom of gastric distress may or may not be present, and no one symptom-complex is characteristic. In general, symptoms are useful only to drive the patient to a physician, and to suggest to the latter physical and chemic examinations.

Pain, so frequently considered characteristic of cancer, is inevitable only when a nerve is directly implicated. Otherwise it indicates a dirty, distended, or otherwise neglected stomach. Some degree of discomfort cannot be avoided, but a well-cared-for gastric cancer is not painful, unless the circumstances are peculiar.

Dysphagia, not otherwise explained, is suggestive of cancer of the cardia. It is seldom absolute, unless from unwise instrumentation, and is, of course, unrelated to other gastric cancers, except possibly by some reflex disturbance. Unless portions of the growth are raised, it is impossible to differentiate inferior esophageal (squamous-celled) cancer from (glandular) cancer of the cardiac end of the stomach itself.

Stagnation (*ischochymia*) bears the same relation to pyloric cancer that dysphagia does to that of the cardia, and equally obviously, it occurs only indirectly with cancer of other location.

The feeling of "food lying heavy in the stomach" is not a positive evidence of delayed peristalsis, much less of true ischochymia. Motor weakness, gastroptosis, and dilatation not due to pyloric obstruction rarely account for delay of food of more than eight or nine hours, and spasm of the pylorus, due to ulcer or not, usually relaxes so as to allow the passage of food after a few hours. In my personal experience stagnation of more than twenty-four hours, unless explained by some acute condition, or unless consisting merely of the "sticking" of some scale or other rough and light débris, has always proved to be due to cancer at the pylorus or in the duodenum. Drs. Stockton and Jones have informed me of a case of gastric dilatation without cancer or other tumor, in which stagnation of a month's duration was made out. The longest delay that I have observed has been twelve days (sausage skin). It must be remembered that, analytically, ischochymia means failure of propulsion or pyloric obstruction, or both, and not cancer directly.

Palpable Tumor.—Tumors of the cardia are, of course, not palpable, although they may be felt as a resistance to the sound. Tumors of the pylorus and lower and right portions of the stomach are palpable from the time they reach the size of a chestnut, provided that the abdominal wall is thin and yielding. Such tumors feel as large as a walnut, on account of the investment of the abdominal wall. Such tumors may disappear temporarily on account of being pushed upward and backward, or drawn upward under the costal arch by muscular contraction. This was well illustrated in a case seen with Dr. W. H. Woodbury. Spasm of the abdominal muscles may be overcome by anesthesia, but I prefer the relaxation obtained by immersion in a hot bath, as the patient's coöperation is retained. While patients with thick or rigid abdominal walls are examined with great difficulty and with doubtful results, there is, on the whole, more danger of imagining a tumor which has no real existence than of failing to detect one of any considerable size.

Diminished Hydrochloric Acid.—This merely indicates general depression of innervation. It does not characterize early cancer, before constitutional depression occurs, but is, of course, usually found in advanced cancer. Ischochymia, without cause for constitutional depression, usually causes reflexly an increased secretion of acid gastric juice. Thus, ischochymia of high degree, with marked reduction of hydrochloric acidity, is suggestive of cancer. But absolute lack of free hydrochloric acid is very common in benign affections.

Lactic Acid.—Having been used to wipe up the floor at several medical meetings, on account of opposing Boas's teaching that lactic acid was pathognomonic of cancer, I take a personal pleasure in noting the reaction which has followed the first burst of enthusiasm over this test. It is quite unnecessary to follow the elaborate technique described by Boas. If lactic acid is considerably increased, as determined by the ferric chloride test—Hewes's modification is convenient—we can deduce fermentation of considerable degree, which does not usually occur without marked deficiency of hydrochloric acidity. In ischochymia there is a tendency to lactic acid excess, even in the presence of free hydrochloric acid. All things considered, most instances of marked production of lactic acid in the stomach are coincident with cancerous obstruction at or near the pylorus—for obvious reasons—but no one specific germ is connected with lactic acid fermentation, nor has the latter any pathognomonic connection with cancer.

Other Microörganic Chemic Changes.—Lactic acid fermentation is by no means the only fermentative change that occurs in chyme, and it is probably no more characteristic than others, but thus far it is the only one for which we have a clinically convenient test.

Putrefaction, as indicated by the production of organic S-compounds, which blacken lead acetate paper, and even more clearly by the odor, is normal, to a limited degree, in the intestine, but not in the stomach. We can distinguish by the odor pretty clearly between a regurgitation of intestinal contents, with an active growth of colon bacilli, and gastric putrefaction. The latter may also be divided into putrefaction of foods and of tissues, both theoretically and practically, by the odor, although the two processes are likely to be simultaneous. Putrefaction of foods—largely proteid—is also accompanied by rancidity of fats, and it is only rarely that there is an even balance of putrefaction and fermentation. While rotting of meats, eggs, etc., in the stomach indicates cancer only as cancer is a putative cause of ischochymia and diminution of hydrochloric acid, rotting of tissue is quite diagnostic of cancer, for the reason that this is almost the only possible explanation of a necrosis of tissues in so large a mass as to be incapable of rapid digestion by unformed ferments, or under such circumstances that there is so marked a failure of secretion as to allow putrefaction. While embolic, thrombotic, and angiospastic necrosis is quite common in the stomach as the basis of ulcers, a process on such a scale as to be comparable

with gangrene of external parts is exceedingly rare, except in a cancerous mass. Dr. Roswell Park has lately reported two cases of gangrene *en masse* of the intestine, without such local lesion as strangulation, traumatism, etc., and the same process may occur in the stomach, but very rarely. Thus, a persistent cadaveric odor of the gastric contents, not merely a foul breath, is highly suggestive of cancer. But one must have an acute and well trained sense of smell to discriminate.

Failure of Ferments.—While failure of free hydrochloric acid is very common and may be due to almost any transient depression of function, failure of ferments is extremely rare unless the depression is tremendous. Transient failure may occur in shock, high fever, and in asthmatic and other paroxysms, as well as in central nervous lesions, such as apoplexy. Continued failure —achylia gastrica—may occur in anadenia due to various causes. Nearly or quite absolute achylia is occasionally accidentally discovered in persons of good general health when there is usually no serious consideration of cancer. If, however, such a person were suspected of having cancer and the achylia had not been previously determined, we should be misled into making an erroneous diagnosis of cancer, or attributing to cancer really present an undue influence upon the secretions. But as achylia is a rare condition and cancer by no means common, such an error must occur very seldom and may be considered negligible, for even if the diagnosis were wrong the prognosis would be the same as for a genuine cancer. Anadenia from gastric catarrh and degeneration may not immediately be distinguished from cancer, but the history and duration of the condition will gradually lead to a revision of the diagnosis. I have also observed achylia in Addison's disease, and it may be a result of grave anemia and other constitutional states. The examination of the blood and urine will be of service in the differential diagnosis, and various other methods will naturally occur to us in particular cases. The laity, however, will regard as purely technical the distinction of cancer from other fatal diseases with gastric symptoms.

Hemorrhage.—Blood, of gastric origin, whether appearing in the vomit, extracted stomach contents, or stools, is usually dark, small in quantity, and pretty well digested, when due to cancer; sudden, copious hemorrhages are usually due to peptic ulcer; and small or large, occasional hemorrhages may be due either to ulcer or direct internal traumatism, including that inflicted by external violence, but without penetration, and really

acting upon the stomach itself through transmitted violence. The repeated small, dark, digested bleedings characteristic of cancer are duplicated in chronic catarrh with congestion, especially in the form due to back pressure, usually from a contracted liver, and in gastric ulcer due to vascular changes, such as calcareous arteries, in which the resulting ulcer has little tendency to copious hemorrhage because the same condition which underlies the loss of continuity of tissue has already occluded the potential source of hemorrhage. In my experience there is more tendency to diagnose a cancer that does not exist than to interpret as cancerous a non-cancerous condition.

The guaiac test for hemoglobin is, at best, neither sensitive nor reliable. Digested blood, in small quantities, has usually passed the stage at which it can be detected by guaiac, and we must depend largely upon the microscopic detection of hematoidin crystals, after treatment with glacial acetic acid and sodium chloride. The change may even have passed this point, so that we must exclude bismuth and other extrinsic pigments and rely upon the dark, grumous appearance.

So far as hemorrhage is concerned, I am unable to distinguish between the three comparatively common sources in elderly persons—cancer, back-pressure hemorrhages due to hepatic sclerosis, and angiosclerotic ulcer.

Microscopic Appearances.—The long, thread-like bacilli, which produce lactic acid, and the baseball-bat bacilli have been considered characteristic of cancer; but these, with others and with various forms of bacteria, yeasts, and fungi, are all found in ischochymia and have no special relation to cancer.

Blood cells are, of course, no more characteristic than blood in general.

Cancer tissue is obviously pathognomonic of cancer, but it is not found until the cancer has begun to ulcerate, and then the cells are so much altered that it is difficult to make a positive diagnosis, or conversely, to distinguish the sheddings from catarrh and ulcer from cancer nests. I have never happened to find a mass of tissue of suffieient size to enable a section to be prepared from its interior, and have never been able to make a diagnosis upon any single shred, although, from the accumulated evidence of probabilities from the appearances of a number of shreds, I have several times made a positive diagnosis, and it has always been verified. It is usually impossible to find material for this sort of microscopic examination in a mass of food, and it is better to obtain material by lavage of the jejune stomach.

Several times I have known the diagnosis of cancer to have been based upon normal gastric mucosa, accidentally detached, so that I would not absolutely deny that a person of correspondingly greater skill than myself could diagnose cancer from a single shred, disintegrated as it usually is.

The appearance of blood and suspicious fragments is a comparatively late diagnostic sign of cancer of the orifices, which is usually detected as a tumor or obstruction earlier. Cancer of the wall of the stomach, however, does not usually present itself for diagnosis until it begins to ulcerate. However, in the case of cancer of the pylorus, extending to the wall generally, the stomach may be palpated as a hard bulb shortly before the sloughing of its superficies.

Lymphatic Involvement.—While internal lymph nodes are doubtless enlarged early, we must depend for diagnostic purposes mainly upon the nodes in the axillæ and neck, those of the left side being almost always earlier involved. The denser and more sharply defined the original tumor, the less likely are we to find the lymph nodes enlarged. Indeed, if there is marked lymphatic involvement, radical operation is usually out of the question, although a gastroenterostomy or nesteostomy ("jejunostomy") may be indicated as a palliative. Ewald lays stress on the diagnostic value of a mass of lymph nodes at the middle of the greater curvature. This I have seldom found.

Blood.—F. P. Henry has emphasized the diagnostic value of an anemia corresponding to a count of about 2,500,000 red cells. As I understand this sign, it simply means that with cancer, as with any other general state of depression not involving the hematopoietic organs, a balance is struck at about this point between the power of the blood and blood-making organs to appropriate nutriment, and on the other hand, the power of other vital organs to appropriate nutriment from the scant supply available sufficient for the maintenance of somatic life. There is no particular factor to hold the blood at this level, but the other vital organs give out before the anemia has an opportunity to increase. In essential blood diseases, on the other hand, the vitality of the other organs is initially fairly high, and the blood declines to a standard of, say, 1,000,000 before the former succumb. This explanation is purposely expressed in colloquial and unscientific terms to make it clearer.

Urine.—For many years diminution of urea was considered a sign of malignancy. It certainly is not of localized cancer, and it seems to be merely an indication of diminished nutrition

and oxidation, having nothing to do with the cancer, except as the latter interferes with bodily function.

Depraved Nutrition Generally.—The changes noted in the urine, blood, temperature, etc., are purely secondary or accidental, and not at all characteristic of cancer—that is to say, the classical descriptions are consistent with cancer, but they may apply to non-cancerous states also, so that they have no practical diagnostic value. I have been unable to elicit any definition of cancerous cachexia which distinguishes it from others, and certainly I must confess to being utterly unable to judge from the general appearance whether the patient has cancer, hepatic sclerosis, or any other condition in which there is anemia and self-intoxication, with emaciation.

Specific Indications.—It is not unreasonable to hold that there may be a specific living cause of cancer, or that the cancer may produce a definite chemic substance. The former has not yet been demonstrated, although various false scents have been thoroughly traced, and one of the trails may yet be proved to lead to the true explanation.

As has been stated or implied, there is absolutely no quantitative change of normal metabolism which has been definitely connected with cancer. Some preliminary reports of Boas and Ewald have led to the hope that the tryptophan reaction may indicate that cancer produces in the body a substance qualitatively different from the products of normal metabolism. Dr. G. H. A. Clowes has very kindly applied this test to several of my cases, including one definitely proved by operation and necropsy to be advanced pyloric and hepatic cancer, with negative results. The results in the Berlin laboratories have also been inconstant, though showing that about seventy-five per cent of cases of gastric cancer yield this reaction. Barring some error in technique, if this sign fails once it follows that it is not pathognomonic, yet it may be found to be as suggestive as the diazo-reaction in typhoid; nor is it impossible that by modifying this test or by discovering some other we may be able to detect cancer with certainty.

ACUTE PARENCHYMATOUS NEPHRITIS.

BY E. LUTHER STEVENS, M.D., DES MOINES, IOWA.

The varied inflammations of the kidney have been named and renamed, divided and subdivided, until when one attempts to look up the literature on the subject he finds endless and well-nigh hopeless confusion.

The subject, "Acute Parenchymatous Nephritis," was assigned to me by the distinguished chairman of this section, who inveigled me into consenting to read this paper before I knew the subject's breadth or my own limitations, and all I can hope to do is to save some of my colleagues some time an effort in looking up the subject. I shall present briefly, indeed almost categorically, a review of the subject, illustrating the same by a few case histories and offering a few suggestions, perhaps.

Clinically there are two general classes of nephritis, acute and chronic, the dividing line being one that is not fixed except for classification purposes. The adjectives used to denote the modifications of both acute and chronic nephritis refer to the pathology, anatomy, etiology, or symptomatology, and are so numerous that one in attempting to bring them all into review almost needs a card index cataloguing system with 200 alphabetical subdivisions.

Synonyms used with the term acute parenchymatous nephritis are acute nephritis, acute Bright's disease, acute diffuse nephritis, acute exudative nephritis, acute hemorrhagic, acute glomerular, acute desquamative, acute croupous, acute catarrhal, acute tubal, acute interstitial, and acute exacerbation of chronic nephritis.

Hektoen states that the same clinical picture may be produced by different forms of kidney disease, and that at the autopsy table it is a frequent experience to find advanced renal disease in cases in which there were few renal symptoms, and that severe clinical manifestations apparently referable to the kidneys may exist with almost normal kidneys.

Etiology.—First in importance are the infectious diseases, including gonorrhea and syphilis, and particularly the exanthemata, and of these especially scarlet fever. (2) Exposure to damp and cold when the resisting power is weakened from alcoholic excesses, illness, or overfatigue. (3) Toxic drugs—*e.g.*, cantharides, salicylic acid, turpentine, copaiba, phosphorus, arsenic, and lead. (4) Pregnancy with abnormal conditions existing

concurrently. (5) Traumatism of the kidney or affecting the portal circulation. (6) Injury to or chronic diseases affecting large surfaces of the skin, particularly burns. (7) Intestinal intoxication, when frequent, prolonged, or severe. (8) Chronic nephritis. (9) Diseases attended by jaundice, anemia, prolonged hyperpyrexia—*e.g.*, pneumonia, meningitis, septicemia, tuberculosis, malaria, and endocarditis.

Morbid Anatomy and Pathology.—A pathologic nomenclature based upon the anatomic structures certainly gives the most systematic classification. Probably most, if not all, inflammations of the kidney primarily are parenchymatous, but soon the interstitial tissues are also involved. In severe tubal inflammation the glomeruli are also apt to be affected, and *vice versa.*

Microscopically the appearances are best stated by quoting from Thompson's Practice of Medicine: "The color varies with the quantity of blood from a dark-red hyperemic to a pale yellowish anemic hue. The capsule is stripped easily, leaving a smooth surface mottled by venous infection with patches of anemia, or by hemorrhagic spots. On section the markings are indistinct; the medulla is dark, and the cortex pale. Microscopically the changes are chiefly in the cortex. The glomeruli are large, distinct, and red, or in poison cases they are pale, and there is proliferation of their capsular epithelium (glomerulo-nephritis). There are cloudy swelling and hyaline and fatty change in the cells of the convoluted tubules, where coagulation necrosis is decided in cases due to toxic agents, and where many casts appear. Minute hemorrhages take place in Bowman's capsule and around the tubules, and the vessels show hyaline degeneration. Both glomeruli and tubules are filled with degenerated epithelium, leucocytes, and granular detritus. In severe cases only the spaces between the tubules exhibit serum and blood-corpuscles of both kinds, with round-cell infiltration. Of all these changes, the most prominent are those of the epithelium. . . . An acute interstitial nephritis is found in the acute fevers of childhood. Councilman, in a study of forty-two cases, describes the initial lesion of this type of acute nephritis as an accumulation in the interstitial tissues of leucocytes and of cells derived from capillaries and venules, and from the connective-tissue cells of the glomeruli; there is also a secondary degeneration in the tubular epithelium."

In acute diffuse nephritis the urine possesses the following typical characteristics, quoting from Purdy: "The quantity is invariably diminished, and sometimes extremely so. At the

height of the disease but few ounces of urine may be voided during the whole twenty-four hours; but later on, if improvement occurs, the quantity gradually increases until the normal volume, or even more, may be reached. If the quantity of urine rises above the normal it may be taken as an evidence that the acute character of the disease is modified, and the tendency is toward resolution. On the other hand the urine, at the very height of acute nephritis, may become practically suppressed. . . . In the early and very acute stage of the disease the specific gravity of the urine usually rises above normal, often reaching 1025 to 1030 or even higher. With continuance of the disease the tendency is toward a lowered specific gravity of the urine, corresponding with the increased volume. The color of the urine varies considerably at different periods of the disease, the variation depending in part upon the quantity of the urine voided, and in part upon the quantity of contained blood. As a rule, the color of the urine is dark, more or less approaching chocolate color. . . . The chemical reaction of the urine, uninfluenced by medication, is always sharply acid. . . . The gross solids for twenty-four hours are always reduced. . . . The urine contains albumin invariably, but always large amounts in acute nephritis. It may reach as high as 2 per cent or even more by actual weight; so that upon coagulation it nearly fills the test tube. More frequently, however, the range is in the vicinity of ½ to 1 per cent—5 to 10 grammes per liter (Esbach's method). A few cases of acute nephritis following scarlatina are recorded, in which the urine was free from albumin. It is, however, rare in such cases that albuminuria is absent throughout the whole course of the disease; more often it is of sudden onset at some stage, and occasionally it has been observed in intermittent form. . . . The presence of blood in the urine may be regarded as one of the essential features of this disease. . . . Hematuria is developed early, being in most cases among the first symptoms noticed, while it usually subsides much earlier than does albuminuria. . . . The urinary sediment in acute diffuse nephritis is large in quantity, usually brownish in color from admixture with blood, urates, and coloring matters. Microscopical investigation of the sediment discloses the presence of red blood-corpuscles in larger or smaller numbers. . . . Renal casts are present in large numbers, and may have attached to them (*a*) blood corpuscles, (*b*) leucocytes, (*c*) renal epithelium (Fig. 40)."

Symptomatology.—The symptoms vary according to the

onset of the disease, whether it develops suddenly or slowly. If the onset is sudden, there is very apt to be a severe chill, followed quickly by a rise of temperature to 102° or 103°, accompanied by dull, heavy aching in the region of the kidneys; severe vomiting occurs; the skin is apt to be dry, but following the fever there may be profuse perspiration with distinct uriniferous odor; the edema or anasarca develops rapidly; the urine decreases, is very dark in color, or may be bloody, containing epithelial débris, albumin, and blood casts; headache is severe; and mental dulness, stupor, or coma ensues, followed by typical uremic convulsions.

In cases developing slowly, the decrease in the quantity of the urine may be the first symptom noted. If not, edema of the eyelids is the first symptom noticed; pallor is noted, but it is not nearly as marked as in chronic nephritis. The urinary changes and other symptoms are the same as in the sudden type, but the changes come on more slowly. The urinary changes were spoken of more in detail under the subhead "Pathology."

Diagnosis.—The diagnosis of acute parenchymatous nephritis, if attention is paid to the urinalysis, case history, nervous symptoms, and edema, is not difficult.

Prognosis.—In general it may be said that the prognosis relative to mortality is good, but relative to morbidity only fair, as approximately one in ten is apt to be left with chronic nephritis or permanent structural modifications of kidney tissue. Of eighty-eight cases of scarlatinal nephritis reported by Bajinsky, of Berlin, eleven died, a mortality of 12 per cent. If there is complete suppression of the urine, or uremic convulsions occur, the prognosis is exceedingly grave. The duration of the disease is ten days to four weeks. If it lasts longer than that, it is very apt to become a chronic type of nephritis. Recovery is much more apt to take place in the young than in those past middle age. As long as albumin continues in the urine, it cannot be considered that recovery has taken place.

Treatment.—In all acute diseases, as well as chronic, the most essential feature is wise management, which will include absolute rest under the most favorable conditions that are obtainable, with the best possible trained attendants. The chief indications are to (1) promote elimination, (2) quiet the nervous system, and (3) preserve the strength of the patient.

To meet the first indication, in sthenic cases, hydragogue cathartics may be used; and after the first effects cholagogue cathartics should take their place. In asthenic cases the chola-

gogue cathartics only should be used. To assist in clearing out the engorged or occluded uriniferous tubules, digitalis has the best reputation; diuretin is also largely used. Diluents, particularly dilute solution of cream of tartar and citrate of magnesia, are frequently used.

Hydrotherapy, both external and internal, is of very great value, and the satisfaction with its use is increasing constantly. Large quantities are used per orem, and high saline enemata are exceedingly beneficial. While the hot pack assists greatly in elimination in all cases, it must of course be used more cautiously in the asthenic type, and the same may be said of the electric light bath.

To meet the second indication—*i.e.*, where the nervous symptoms are severe—the prolonged neutral bath is very soothing and beneficial. During uremic convulsions, chloroform may be required for temporary and morphine for more permanent quieting effect, and which are believed by H. P. Loomis to assist in elimination; a few authorities favor the use of pilocarpine, but most acknowledge that it must be used with extreme care. Dry cupping frequently yields good results. Thermotherapy is particularly applicable to patients of the sthenic type where the pain is particularly severe.

The third indication, that of preserving the strength of the patient, is looked after first by the *cautious* use of cathartics, using cholagogues rather than hydragogues, and second by careful dietetics. Most authorities insist upon exclusive milk diet, many demanding skimmed milk. Renvers, of Berlin, quoting from the *Journal of the American Medical Association* of May 24, 1902, says: "The diet should contain carbohydrates and fats to supply the needed calories, and limit the albumin to what is actually necessary—not more than 50 or 60 grammes for an adult not at work. An exclusive milk diet is not advisable, as it contains albumin. The milk can be diluted with gruels, etc. As the nephritis subsides the milk can be increased to two quarts a day. Even after albuminuria has entirely disappeared, meats should be added only tentatively to the diet. Vegetables and fruits are not permissible unless the diuresis is abundant. The allowable proportion of albumin should be supplied at first in the shape of pure vegetable albumin. In case the blood-pressure is low, hot drinks will be found useful, avoiding those containing meat extractives or alcohol. Digitalis and strophanthus are rather injurious than beneficial if administered with normal blood-pressure. Hot drinks of sweetened diluted milk or malt extract

with cream, and brief hot foot-baths, are useful measures, but the only real diuretic, he reiterates, is water."

Surgical treatment, not infrequently indicated and used in chronic nephritis, is sometimes indicated in acute parenchymatous nephritis when complete suppression occurs, and a fatal result prevented.

Prophylaxis.—This is of exceeding importance. All persons of lithemic tendencies, and indeed all others, should be encouraged to drink an abundance of pure water. With the increasing number of patients with chronic intestinal indigestion we may expect to increase the number of cases of nephritis, which will appear most frequently, no doubt, as a chronic form, but which will pass through a mild form before it becomes chronic.

CASE HISTORIES.

Clara M——, aged twelve, was convalescing from scarlet fever; desquamation had ceased; urine had been normal throughout the disease, which was not of a severe type; was up and about six weeks after the acute symptoms of scarlet fever. Began to complain on Friday with pain in the back, but did not remain in bed until Monday, at which time I was called; marked edema of the eyelids and of the feet had occurred, appearing in both places within twenty-four hours, or just preceding my visit, according to the reports of the family. The urine had been scanty for two days, was of very dark color, of high specific gravity, 10.32, with only a trace of albumin on the day of the first visit; within the next twenty-four hours only two ounces of urine was secreted, in the next day 1½ ounces. Edema increased, vomiting began, and the patient commenced to be delirious. Under treatment, consisting of purgation by calomel and sulphate of soda with three or four hot packs a day, the urine increased in quantity on the fourth day, nervous symptoms began to quiet down, albumin increased for a few days, but by the end of the fourth week had disappeared entirely, the patient making, so far as could be determined, an uneventful and complete recovery.

Harry J——, a business college student, aged twenty-two, first noticed marked decrease in amount of urine, to which he paid no attention until about the third day, when he began to have fever, but had no chill; skin was hot, and he had some headache; pulse was of high tension. First twenty-four hours I saw him he secreted only three ounces of urine, which contained 1½ per cent of albumin and epithelial casts in abundance. This

young man had previously had two attacks of inflammatory rheumatism. He was given two electric light baths followed by neutral baths daily for three days, and calomel purgation. On the third day of treatment he secreted six ounces of urine, which contained a good deal of blood, and for three or four days following there was some blood, but in constantly diminishing amounts. His improvement was uninterrupted, and he was able to go to his home in a neighboring State, though against my advice, at the end of the second week. A sample of urine sent me a month later was normal in every particular.

For the following case history I am indebted to Dr. Chas. F. Smith, of Des Moines:

Rex Allen, male, aged seven years; strong, healthy child; no history of any previous illness of any importance. Was taken sick August 18, 1902, with mild form of scarlet fever; was seen only three or four times during the attack, which ran a very mild course, with no symptoms of any severity. Urine examined following the second visit on August 23, and found to be normal. The case was seen on August 24 and 25, and was apparently well on the last day. September 7 I was again called, and found the child slightly edematous in lower limbs, suffering from dull, heavy headache; he refused nourishment, and appeared drowsy all the time. The amount of urine was noticeably decreased until the total amount on September 19, 20, and 21 was two and one-half ounces. Very grave symptoms of uremia had developed; nausea and dull, heavy headache had become extreme. His stomach had become so irritable that not even water could be retained. The edema had become general; the abdomen and thoracic cavities both contained a large amount of fluid, and it looked as if death could not be far off. The examinations of three days' specimen of urine referred to above showed .7 of 1 per cent albumin, numerous red blood-corpuscles, epithelial cells, and casts. The following day, the symptoms not having improved, the boy was anesthetized with chloroform and a double necrotomy performed. The time consumed in the operation on both kidneys was seventeen minutes. The operation consisted in cutting down, exposing the kidney, removing the kidney fat, splitting the kidney capsule, peeling it away down to the pelvis of the kidney, and trimming away a portion of the capsule. The kidneys were then slightly scarified to relieve the intense congested condition. The day following the operation a large amount of bloody urine was passed, containing a great number of red blood-corpuscles, epithelial casts, and albumin.

There was slight increase in the amount of albumin for a few days following the operation, which I can explain only by the greatly increased amount of blood present. After a few days, however, the amount gradually decreased, until on October 22 the specific gravity was 10.20, the amount of albumin .2 of 1 per cent. Neither blood nor casts could be demonstrated in this specimen. The headache, vomiting, and edema had completely disappeared. The patient was feeling perfectly well. Urinalysis made at short intervals showed a gradually decreasing amount of albumin, until on December 1 there was not even a trace to be found. Since that date I have seen the patient occasionally, and he is apparently in perfect health, there being absolutely no indication of kidney trouble.

In conclusion, let me remark that when the profession of medicine in the United States shall have become thoroughly organized, we hope that one of the first committees appointed shall be one on nosology, whose duties shall be to bring order out of chaos now existing, especially in the nomenclature of inflammation of the kidneys.

THE party sent out by the department of anthropology of the World's Fair to the Congo country of Darkest Africa to gather together for exhibition at the Exposition specimens of African pygmies, has sailed from New York. The Rev. Samuel Phillips Verner, president of the Stillman Institute, of Tuskaloosa, Ala., and a noted traveler in African jungles, is the leader of the expedition. In company with several African boys, whom he brought to this country several years ago, he will proceed to Las Palmas, on the west coast of Africa. Dr. Verner has instructions to bring back with him eighteen of the most interesting specimens of the human race that will probably be seen at the World's Fair. There will be none but pygmies in his party, classified so as to interest the scientific student of ethnology, as well as the mere curious spectator. His instructions are to bring back one pygmy patriarch or chief; one adult woman, preferably the wife of the chief; an adult man, preferably the son of the chief; and an adult woman, wife of the son. Others to be included in the exhibit are a male and female youth, two infants, four adults, a priest and a priestess, either of the Batwa or Dombe tribes; one fine type of the red African, preferably of the Ndombe tribe; three more red Africans and two native pygmies, each of a distinct ethnic type from the others. After the Fair these people will be returned to their homes.—*American Medicine.*

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EDITORIAL ARTICLES.

THE HEARSE-DRIVERS' STRIKE IN CHICAGO.

"Such a worthless worm as I,
Who sometimes am afraid to die."

Whether the people of Chicago should reasonably have, under normal conditions, a greater fear of death than is held by the inhabitants of other American cities, is a question for the theologians to discuss. At present such inborn natural fear of dissolution is greatly aggravated by the conditions under which funerals are conducted in that city. Not content to hold only the living under the ban of its tyranny, labor unionism has extended its persecution to the unburied dead.

Drivers of hearses and funeral carriages are organized as a branch of the Teamsters' Union. They made demands upon liverymen and undertaker employers which were not conceded, and all drivers of hearses and funeral carriages exercised their privilege and went out on strike. So far they were within their rights, but the subsequent conduct of the strike has been such as to shock the sensibilities of the civilized world. Houses of mourning have been "picketed" by the union, mourners and their dead have been jeered, and rioting has occurred. Hearses have been made a special target for violence by members of the striking union and their sympathizers; so that all sorts of conveyances have been pressed into service for carrying the dead to their final resting-places. Wagons, trucks, and ambulances are used in this service, and in at least one instance a rough hand-truck served to carry from a house of mourning to the church the remains of a respected lady, the mother of a prominent Romanist priest. Panic-stricken friends have concealed the facts about their dead, and have concealed the dead in their homes, awaiting such time as they might give them decent burial.

The sanitary and humanitarian features of this situation are too apparent to require comment.

Meantime a supine city government, its officials cringingly subservient to the labor vote, has only feebly interfered to curtail this indecent spectacle. There have been a few times in the world's history, during stress of plague or pestilence, when the dead lay unburied, the living fleeing from the dread contagion, but never before did a barbarous people of the darkest period of medieval times present such a ghoulish sight as this.

It is a blot upon the escutcheon of union labor, already tarnished by too many overt acts of violence; it is a crying commentary upon the general spirit of corruption prevailing in the government of a city where this condition can be allowed to exist; it is a disgrace to our boasted twentieth century civilization. *O tempora! O mores!* O Chicago!

EDITORIAL NOTES.

The Typhoid Epidemic at Butler, Pa.

One of the most extensive epidemics of typhoid fever that has occurred in recent years has recently been visited on Butler, Pa., where, with a population of 18,000, there were 1600 cases. The cause of the infection came from neglect to repair the reservoir from which the town derived its regular water-supply, and the use of a temporary one in the neighborhood of which lived a family three members of which were convalescing from typhoid fever. From the report it seems that little or nothing was done by the local Board of Health to remedy matters, even when the source of the contagion was discovered. This catastrophe may have its lesson in showing the responsibility that rests upon water-works officials and local boards of health. When such officials are held responsible for the loss of life incurred by such epidemics they will make greater efforts to prevent them.

The Home Treatment of Consumption.

Dr. Wm. Osler in a recent address on the care of tuberculous patients in their own homes, sums up the essentials of treatment of this affection in small towns, country places, and suburbs of our large cities as: First, the confidence of the patient, since confidence breeds hope; secondly, a masterful management on

the part of the doctor; thirdly, persistence—benefit is usually a matter of months, complete arrest a matter of years, absolute cure a matter of many years; fourthly, sunshine by day, fresh air night and day; fifthly, rest while there is fever; sixthly, breadstuffs and milk, meat, and eggs. Much has been said and more has been written of late years in regard to the treatment of the tuberculous by removal to warmer climates and prolonged residence in sanatoria. While this has been excellent advice it must be remembered that only a very small proportion of those afflicted can afford such absolute changes in their mode of living. The majority must remain at home and make the best of the situation. For these, as Dr. Osler says, much can be done and cures can be effected by skilful management on the part of the attending physician quite as well as at high-priced health resorts.

Campaign for Pure Milk.

The recent action of the Wayne County Medical Society in appointing a committee to inquire into the quality of milk dealt out by the local milkmen is a highly commendable one. There is no doubt that in the past few years the public has suffered greatly by the rapacity of unscrupulous dealers, and while health officers all over the country have put forth strenuous efforts to keep milkmen from adulterating their product, very little seems to have been accomplished. The only way to reach the dealers is by showing them that they can obtain a higher price for their milk if it is pure. It is to be sincerely hoped that the physicians composing the committee may be able to show the dealers the error of their ways, and that the efforts to obtain a pure article for helpless infants may be successful.

Rats Destroyed by Carbonic Acid Gas.

The greatest pest of sailors has always been the rats that infest their ships. They are dangerous owing to the fact that it has been proven that they carry infection from port to port. A Frenchman has recently perfected a method of destroying them by the means of carbonic acid. The carbonic acid is allowed to enter a closed hold by means of a pipe and to remain there for several hours, after which all the rats are found dead. This method is one that does not destroy cargoes, and is odorless.

ITEMS AND NOTES.

Port Huron, Mich., is to have a $25,000 hospital, and has already collected $10,000 of the amount.

The American Roentgen Ray Society held its annual convention in Philadelphia on December 10 and 11.

Several hundred cases of measles were reported last week at Plymouth, a mining town near Wilkesbarre, Pa.

Dr. D. C. Gilman has announced his intention of resigning the presidency of the Carnegie Institute at Washington next year.

It is announced from Copenhagen that Dr. Finsen of that city, to whom the Nobel medical prize was awarded recently, is seriously ill.

The Illinois State Board of Charities has sent a circular letter to each physician in the State asking for definite data regarding epilepsy in the State.

The American Association of Obstetricians and Gynecologists will meet in St. Louis in September, 1904. Dr. Walker B. Dorsett, of St. Louis, is the president-elect.

The average age of death of workingmen in East London is about twenty-nine, whereas in the well-to-do districts of West London the average age is about fifty-five.

The Wisconsin College of Physicians and Surgeons, of Milwaukee, will soon erect a $50,000 addition to their present buildings at Fourth Street and Reservoir Avenue.

The mayor of Chicago has reappointed Dr. Arthur R. Reynolds commissioner of health, and by a unanimous vote, on December 14, the city council confirmed the appointment.

December 7 the authorities issued an order which will greatly lessen the danger of typhoid fever in Butler, and which will to a great extent protect the towns in the valleys below Butler.

Smallpox as officially reported in the United States for the period from June 27, 1903, to December 4, 1903, amounts to 11,908 cases, with 491 deaths, as against 14,262 cases, with 729 deaths, in the corresponding period of last year.

THE Iowa Society for the Suppression of Disease and Degeneracy has prepared a bill, it is said, to be introduced in the coming assembly, providing for a physician's certificate of examination before a marriage license can be issued.

THE Model Hospital in which the sick and wounded will be cared for on the World's Fair grounds during the St. Louis Exposition is practically finished, and will be dedicated in a few days. The building is 108 x 109 feet and contains, besides operating-rooms, a dormitory for the matron and nurses.

VIRCHOW'S library is not to be sold. His widow has generously determined to give away the whole magnificent collection, dividing it between the Pathological Institute and the two scientific societies that Virchow had most at heart. Six or seven thousand volumes are to go to the Berlin Medical Society.

RECENT excavations in Rome, says an exchange, show that dentistry was practiced many centuries ago. On the Via Rosella, which existed at the time of the old Roman Republic, a cave has been opened up which disclosed a number of graves set in niches. One skeleton of a woman was found with a perfectly modeled set of gold teeth.

THE *Chicago Tribune* says: "Notwithstanding the precautions that have been established by local health authorities over Illinois, smallpox is spreading at a threatening rate over the State. Contagion, it is reported, exists in twenty counties at the present time and at a total of thirty places, nearly 300 cases of the disease being reported."

A GERMAN professor, says *American Medicine,* has invented a process of silver-plating dead bodies so as to convert them into metallic images of the individuals as they were when in life. Gold plate can be used if the relatives can afford it. But as the expense of silver-plating a body is $12,500, there are probably few relatives who would deem themselves justified in squandering the deceased's estate on such a memorial.

AT the last meeting of the Berlin Society for combating venereal disease, Professor Kuttner read a paper on quacks and venereal diseases. Enlarging on the well known fact that it is for the syphilitic patient above all others that quacks spread their nets, he quoted official statistics to prove that of Berlin female quacks 14.4 per cent, and of Berlin male quacks no less than 29 per cent, are individuals previously convicted of crime.

Professor Zakharoff, of the Faculty of Medicine of Warsaw, and director of the veterinary school of that city, is likely, according to the *Medical Times,* to fall a victim to his zeal for scientific research. In making a necropsy of the brain of a dog which had died of rabies, he inflicted a slight cut on one of his fingers, to which he paid no attention. About a fortnight later symptoms of hydrophobia appeared, and he was taken to the Pasteur Institute, which is under the direction of Professor Palmyski. There is said to be no hope of Professor Zakharoff's recovery.

John A. Turner, an Eddyite, died November 29 at Savannah, Ga., while under "science" treatment. The health officer refused to issue a burial certificate, and called on the coroner to investigate the death. The coroner reported that Turner died from the rupture of a blood-vessel, and that he was not attended by a physician. The case will be laid before the grand jury and indictments asked on two grounds: First, that the Eddyites who attended Turner violated the law requiring licenses; and secondly, that there was criminal negligence in permitting the man to suffer without proper attention.

President Harper of the University of Chicago, says *American Medicine,* has warned the students of a typhoid fever epidemic at the university. Several cases have developed recently, and the authorities, fearing a serious siege, have begun vigorous efforts to stamp out the disease before it gets a firmer hold among the students. Before a special meeting of all the students Mr. Harper personally asked the university men and women to do all in their power to help the authorities in their efforts to rid the university of the disease before the classes have to be broken up and the students sent to their homes. The students were asked to leave boarding-places where the water was not boiled, and to take other precautions.

An engineer of Copenhagen has organized an "International Association for the Diffusion of Information Regarding Injuries Caused by Rats," the object being to demonstrate the necessity of concerted action looking to the extermination of rats. Last year, by private subscription and public appropriation, a systematic campaign was, says the *Medical Record,* carried on in Copenhagen and Fredericksberg. A bounty of three cents each was offered for dead rats delivered to the fire-engine houses. The campaign lasted from August 3 to December 9, and 103,786 of the rodents

were killed. The Asiatic brown rat is, however, so migratory in his habits that it is scarcely worth while to wage a local campaign, and it is only by a general warfare that a considerable diminution in the number of rats can be brought about.

THAT the sense of smell is greatly impaired in old age appears from observations by a French physiologist, M. Vaschide, who communicates his results to the Academy of Science, Paris. To quote a report in *Cosmos* (Oct. 31): "Old people seem to have an atrophied sense of smell, and it is a remarkable fact that they do not seem to be conscious of this infirmity. Even when they can scarcely distinguish one familiar odor in ten, and when they take strong-smelling liquids for pure water, they assert that they enjoy the perfume of flowers. Their visual images make up for the absence of olfactive images, for they recognize the perfumes of the flowers when they are able to see them. The olfactive image thus has an independent intellectual existence, since it is capable of functional revival." (Translation made for the *Literary Digest.*)

THE Royal Commission on Arsenical Poisoning from Food and Drink of Great Britain, says *American Medicine,* has recommended the prohibition of the sale of beer and other liquid food, or any liquid entering into the composition of food, which contains 1/100 grain or more of arsenic per gallon, and also the prohibition of the sale of solid food containing 1/100 grain per pound. The commissioners state there are serious defects in the present methods to safeguard the public, and urge that more extended powers be given to the authorities to condemn unwholesome food. They recommend the establishment of official standards at the creation of a board of reference, to which could be referred specific points. Their decisions should be carried out by the department concerned, and the latter's action should be subject to the control of Parliament.

THE Prussian State Department for medical matters has published an important rescript on the subject of first aid and ambulance organization throughout the kingdom. The enormous increase in modern traffic, says the rescript, together with the dangers anticipated from the approach of dangerous infectious diseases, has brought home to the government the importance of this matter, and the necessity for centralized action. Before taking any steps, however, the government wishes to make sure, by means of a general inquiry, what organizations for first aid

in cases of accidents and for ambulance transport already exist in Prussian towns and country places. A set of questions has been prepared, and is to be sent out to the proper authorities all over the monarchy. It is subdivided under the following headings: (1) General information; (2) hospitals; (3) accident and first-aid stations; (4) accident stations along the watercourses; (5) ambulances; (6) first-aid and bandaging classes; (7) organization of notification.

THE bulletin of the Chicago Health Department for the week ended November 21 says: "In 1855 began the elevation of the city level so as to secure drainage and sewerage, and in 1856 the first sewer pipe was laid. During the intervening period—that is, between 1851 and the close of last year—the citizens of Chicago have paid more than $100,000,000 for these two essential 'sanitary conditions,' namely, a water-supply system of more than 11,000,000 linear feet, and a drainage and sewerage system of nearly 9,000,000 feet. This does not include the cost of lifting the city bodily to a height of eight feet above the original level of the site—a necessity for the drainage system. During the quarter of a century preceding water-supply and sewerage the average annual death-rate was 33.87 per 1000. In the succeeding twenty-five years this rate had fallen to 22.37 per 1000, and in the subsequent period, ended in 1902, it still further fell to 18.16 per 1000, or a little more than one-half the rate of the first twenty-five years of the city's existence."

RICHARD GUENTHER, United States consul-general at Frankfort, referring to the "radium industry" already developed in Germany and France, says: "Notwithstanding the difficulty in its production, a radium industry has already developed in Germany and France, and although one gramme is sold at a little less than $2000 the manufacturers are said to have orders for several hundred grammes. The demand for medical purposes exceeds the supply. Radium possesses all the important qualities of the Roentgen rays, in addition to the invaluable property of being ready for use at any time and furnishing its rays without the employment of apparatus. It has been demonstrated that a small glass tube, not larger than a goose-quill, containing a little more than a thousandth part of a gramme, is as effective as an expensive and complicated electric apparatus for the treatment of cancer—surpassing the best efforts of the Roentgen rays. The ease with which radium can be administered locally, as, for instance, in the nose and throat, is an invaluable advantage."

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Results of Surgical Treatment of Brain Tumors.

Allen Starr (*Scottish Medical and Surgical Journal,* November, 1903) has collected 365 cases of brain tumor in which an operation has been attempted, and gives the following table of results:

		Cerebral.	Cerebellar.
Total number of cases operated on.....	365	315	50
Cases in which the tumor was not found.....	111	91	20
Cases in which the tumor was found but not removed	27	21	6
Cases in which the tumor was removed and the patient died	59	51	8
Cases in which the tumor was removed and patient recovered	168	152	16

The increased accuracy of diagnosis and of localization, the improvement in surgical technique, and the knowledge that a tumor lying some distance, say one or two inches, below the surface may be reached, lead Starr to think it "probable that the statistics of the next ten years will show a very much greater percentage of successes than do the statistics up to the present time." He takes a very unfavorable view of operation for cerebellar tumor. He finds from measurements made on the cadaver that only one-tenth of each hemisphere of the cerebellum can be reached by the surgeon through the occipital fossa, and that the surface so accessible is very rarely the seat of a tumor; cerebellar tumors lie in one or other of two situations, equally inaccessible—either in the middle lobe directly beneath the tentorium, or in the sulci between the cerebellum and the pons medulla. "After a considerable experience (I have had nine such cases operated upon without any success) it seems to me futile to attempt this operation."

Wound of the Thoracic Duct.

A. Faure (*British Medical Journal,* Nov. 25, 1903) reports a case of accidental wounding of the thoracic duct in the course of extensive operation for the removal of a malignant growth from the anterior mediastinum, and of secondary affected glands in the neck. The opening, which was a small one, was closed by

lateral suture. The patient made a good recovery, but the complete healing of the large wound in the neck was retarded by extravasation of lymph and by the formation of a small lymphatic fistula, which closed at the end of ten days. This case, the author points out, shows that wounding of the thoracic duct is not very serious. The researches of Ferrier on animals prove that although the discharge of lymph from a wound in the thoracic duct is usually very profuse, there is always a tendency to spontaneous closure of the fistula. That the same tendency occurs also in man is indicated by Faure's report, and also by a case referred to in the discussion by Recard, who wounded the duct whilst extirpating a tumor of the thyroid body. This accident was followed by a very abundant discharge of lymph, which ceased in the course of a few days, after firm compression of the wound in the neck.

Patent Diverticulum Ilei.

A case of this is reported by A. A. Strassen (*Medical Record,* Dec. 12, 1903). The writer says that this condition is one of great rarity. Males are more frequently afflicted. Careful attention should be paid to any granulations at the navel before and after the dropping of the cord. It will be wise at all times to remember the possibility of an included bowel and tie the cord at least two inches from the umbilical ring. A radical operation is safest, to do away with the possibility of intestinal obstruction through diverticula later in life.

MEDICINE.

The Relative Importance to a Community of Pneumonia and Tuberculosis.

A. C. Klebs (*American Medicine,* Dec. 12, 1903) says that the relative economic importance of pneumonia and tuberculosis cannot be estimated by a mere comparison of total mortality figures for each disease.

The high mortality from pneumonia, and to a certain extent its increase, is due to a classification of different ill-defined pathologic conditions under one name, while that from tuberculosis represents that of a well-defined morbid entity. For this reason, and on account of the relative shortness of disabling sick-

ness and frequent recovery in tuberculosis, the relative importance of the two diseases is so vastly different that a comparison on economic grounds reveals the overpowering danger from tuberculosis. The steady decrease of the tuberculosis death-rate can be explained on the grounds of increasing improvement of hygienic conditions in late years, and as the result of specific prophylactic measures. The increase of the pneumonia death-rate, occurring in a time of improving hygienic and sanitary conditions and of a general application of antiseptic principles, shows its independence of these features. In view of the still enormous mortality from tuberculosis, its demonstrated preventability, and the possibility of its arrest only in its earliest stages, the institution of educational measures in regard to personal and public hygiene, widely and specifically applied, for the prevention of this disease, seems to be distinctly indicated. As to pneumonia, as pointed out by E. F. Wells, "the fundamental information on which prophylactic rules may be formulated is not yet at hand." This subject needs further investigation from a bacteriologic and epidemiologic standpoint as well, before "exaggerated and irrational notions in regard to its dangers and its avoidance" are communicated to the public, which in view of the facts given are out of all proportion.

Chronic Villous Arthritis, with Special Reference to Etiology and Pathology.

C. F. Painter and Wm. Erving (*Medical News,* Nov. 28, 1903) say that chronic villous arthritis is not a disease of itself. It occurs associated with chronic diathetic disease, which involves other tissues than the synovial membrane of the joints affected. The two principal diatheses which cause it are rheumatoid arthritis and osteoarthritis. The villous changes in these chronic conditions are symptoms of a general condition and not an entity in themselves. Traumatism is capable of giving rise to a hypertrophy of villi, and this hypertrophy is usually a local one in the part of the membrane directly or indirectly injured. Traumatism, associated with an osteoarthritic diathesis, is frequently the excitant of local synovial hypertrophy. Stout, flabby adults, with pronated or flat feet, are more liable to the type of fringe which undergoes fatty degeneration with a minimum amount of fibrous change. Alteration in the mechanics of weight-bearing is not the prime cause of this condition in many of the knee cases. It is very frequently a contributing factor; but it is extremely

doubtful if simple flatfoot or pronated foot without some more fundamental tissue change can account for this condition. The operative treatment in the properly selected cases gives eminently satisfactory results when undertaken with an understanding as to what the procedure contemplates. Conservative treatment, when carried out properly in suitable cases, which comprise however only a small class, gives equally good results. The main thing is to be able to discriminate between the classes. Judging from the pathologic findings, the condition is the result of a chronic inflammatory process of whatever cause, which by acting upon the normal villi of the synovial membrane causes their hypertrophy, together with a consequent great increase in the number of their blood-vessels. The vessels are unable to supply the needs of the new tissue, affected as they are themselves by the inflammatory process.

Distribution of Diphtheria Bacillus and Hoffman's Bacillus in Throats of Contacts and Normal Persons.

S. G. Smith (*Journal of Hygiene*, November, 1903) says that diphtheria bacilli have been found in a considerable proportion of persons who have come in contact with cases of diphtheria or with infected persons.

Such persons have been shown to be a grave danger to public health, especially when frequenting schools or institutions, and to constitute the usual channel by which the disease is spread.

Very satisfactory results have followed on the isolation of convalescents from the disease and of infected "contacts" where two or more consecutive negative examinations have been required before release.

Carefully conducted investigations amongst healthy persons who have not at a recent date been in contact with diphtheria cases or infected "contacts" have shown that virulent diphtheria bacilli are very seldom present in the mouths of the normal population. This fact renders the discovery and isolation of infected persons a practical possibility, and offers a fair prospect of discovering and isolating the majority of them in any outbreak.

Diphtheria bacilli are usually distinguishable on morphological and cultural grounds, but whenever possible it is desirable that their virulence should be tested.

The bacillus of Hoffman is innocuous to man and is a very common organism in the mouths of the poorer classes. The distribution of this bacillus points to the conclusion that it is carried

from mouth to mouth in the same way as the diphtheria bacillus, and therefore its wide prevalence in schools attended by the poorer children is significant as showing how widely spread and uncontrollable an outbreak of diphtheria may become unless measures are early taken to deal with infected contacts.

Hemorrhage in Jaundiced Patients.

D. Berg (*Annals of Surgery*, September, 1903) in an article on the surgical treatment of cholelithiasis states that the persistent and uncontrollable capillary hemorrhage so often occurring in operations on deeply jaundiced subjects is especially apt to follow when the cause of the jaundice lies in malignant obstruction of the bile-ducts. During the past year two of the author's patients have succumbed from bleeding, in spite of a systematic administration of calcium chloride in both small and large doses, given at least five days before the operation. In the author's opinion the cause of this serious oozing lies not so much in the retarded coagulation of the blood as in a fatty degeneration of the walls of the arterioles, interfering with their retraction and contraction. It is hardly possible, it is held, that a retardation in the coagulation of the blood should be responsible for the persistent bleeding that occurs in these cases. Were this alone the cause, the rapid induction of coagulation by cautery or styptics would arrest the hemorrhage. On the other hand, it is well known that chronic jaundice causes a marked atrophy of all muscular tissue. Such atrophy of the muscular tissue of the blood-vessels interferes materially with their contracting power. This view, it is stated, is supported by the results of experience. The longer the duration of the jaundice the greater the tendency to bleeding. Further, it might be expected that as cancerous cachexia, chronic sepsis, and other debilitating influences give rise to a fatty or waxy degeneration of the tissues, patients suffering from these associated diseases would be more apt to bleed than those who suffer from chronic jaundice alone. This is substantiated by experience.

Muscle Forms and Tendon Phenomena.

J. Fraenkel and J. Collins (*Medical Record*, Dec. 12, 1903) say that disease of the posterior columns causes hypotonia and decrease of reflexes. When these conditions are present the

tendon phenomena are absent or diminished, unless additional disease of the descending tracts counterbalances this influence (return of knee-jerks in cases of tabes after hemiplegic attacks).

That disease of the pyramidal tracts causes hypertonia and increase of reflexes. The tendon-jerks under such conditions are increased unless additional disease of the ascending tracts, anterior horns, or peripheral neurons neutralizes this influence.

Histological hypertonia and hypotonia modify the above stated relations to a slight degree when the disease has not advanced to its full clinical representation.

The authors find in their lists a large group of more or less normotonic registrations with approximately normal behavior of the tendon phenomena. They find a smaller group with more or less marked hypotonic registrations. In this group the tendon phenomena are mostly diminished. This diminution is evidenced by the fact that the tendon-jerks are not easily elicited, that the muscular contraction is sluggish and vermicular, and is easily exhausted. It is well to state here that the above mentioned behavior of the tendon phenomena is not influenced by a well executed reënforcement.

The Serum of Jez in Typhoid Fever.

The *Centralblatt für Innere Medizin* notices in a recent issue (No. 48, 1903) a report by an Italian observer, Casardi, regarding the use of this serum.

In the year 1899 Jez reported a series of cases in which he had obtained good results by the use of an antityphoid serum. Eichhorst in the following year reported twelve severe cases which had recovered under use of the serum. Two Italian observers, Pescarolo and Siboldi, reported similar experiences. Casardi used the serum in some very severe cases in a typhoid epidemic which occurred in Barletta; two of these cases he gave in detail (*Gazz. degli Ospedali,* No. 35, 1903). The serum was obtained from the Swiss Bacterio-Therapeutic Institute, and was administered in doses of about 200 cubic centimeters by the mouth, it being well borne in each instance. In all he gave about 2000 cubic centimeters.

As to its good effect he lays special stress upon the polyuria and sweating produced by the serum; these phenomena not apparently weakening the patient, but increasing in a marked manner the elimination of the toxins. It seemed to have a special influence upon the restlessness and other nervous symptoms.

The Prolongation of Life.

Hermann Weber (*British Medical Journal,* Dec. 5, 1903) lays down the following rules for persons desirious of prolonging their lives:

Moderation in eating, drinking, and physical indulgence.

Pure air out of the house and within.

The keeping of every organ of the body as far as possible in constant working order.

Regular exercise every day in all weathers, supplemented in many cases by breathing movements, and by walking and climbing tours.

Going to bed early and rising early, and restricting the hours of sleep to six or seven hours.

Daily baths or ablutions according to individual conditions, cold or warm, or warm followed by cold.

Regular work and mental occupation.

Cultivation of placidity, cheerfulness and hopefulness of mind.

Employment of the great power of the mind in controlling passions and nervous fear.

Strengthening the will in carrying out whatever is useful, and in checking the craving for stimulants, anodynes, and other injurious agencies.

The Degree to Which Substances Agglutinating the Dysentery Bacilli are Present in the Blood of Non-infected Persons.

L. B. Pillsbury (*Medical News,* Dec. 5, 1903) concludes that the serum of non-dysenteric adult patients does agglutinate the Shiga and acid type (Flexner) bacilli frequently in a 1-to-20 dilution, and occasionally in a dilution as high as 1 to 100; that this agglutinating power is wanting in the blood of non-dysenteric young infants (under one year), rarely being present even in a 1-to-10 dilution; that there are certain differences in agglutinating capability between the Shiga and acid type (Flexner) bacilli, the former in these tests clumping somewhat more readily than the latter; that a decided and prompt reaction, under two hours, with the bacillus dysenteriæ in dilutions of 1 to 20 or higher in young subjects (under one year), and in 1 to 50 or higher in older persons who have not recently suffered from chronic or subacute intestinal disease, is probably pathognomonic of acute epidemic dysentery.

The Administration of Antitoxin in Diphtheria by the New York Department of Health During 1902.

J. S. Billings (*New York Medical Journal*, Dec. 18, 1903) says there is no longer any doubt as to the curative action of antitoxin in diphtheria. Of 15,792 cases injected with antitoxin furnished free of charge by the department of health or by its inspectors, 1860 died, a case fatality of 11.8 per cent. If the cases moribund when injected (722 in number) are deducted, the case mortality is further reduced to 7.5 per cent.

The one fact, important if not new, brought out in this report is the great advisability—the almost imperative necessity—of the earliest possible administration of antitoxin. Of 1702 cases injected on the first day of the disease, only 85 patients died (including moribund cases), a case mortality of 4.9 per cent. Comment is unnecessary.

Hysteria.

W. B. Young (*Medical News*, Dec. 12, 1903) makes the following summary in regard to this affection: We must look to the unconscious impressions of infancy and childhood for the etiology of hysteria. The disease primarily is purely a psychosis. The pathology, the writer believes, is located in the adrenal system. The treatment for hysteria *per se* should be psychical. Suitable resorts should be erected for properly treating and caring for the afflicted among the poor. By such treatment hysteria would soon be on the decrease, instead of on the increase, as it has been for years.

THERAPEUTICS.

The Treatment of Vesical Papilloma by Injections.

H. T. Herring (*British Medical Journal*, Nov. 28, 1903) says that recurrence of papilloma after removal by suprapubic cystotomy, which unfortunately very frequently occurs, may be effectually held in check by injections of silver nitrate. If injections are made when it has been found impossible to remove the growth entirely by operation, the recurrence of the symptoms is retarded longer than could be expected without the treatment. Much of a tumor may be removed by the urethra without serious hemorrhage, and a result gained equal in some cases to a suprapubic

operation. There is reason to hope that papillomatous growths may be entirely destroyed by long-continued applications of silver nitrate. The conclusions therefore that may be drawn, although confirmatory evidence is needed, are:

(*a*) That injections should be made after operations for the removal of the growth, whether the operator is satisfied that he has done so efficiently or not.

(*b*) That the urethral route should be tried when removal of the papilloma is contemplated before a more serious operation is undertaken.

The question whether most cases of papilloma should be operated on through the urethra before the injections are commenced, even when the diagnosis is made early and the tumor is small, or whether injections alone should be relied upon, requires further investigation. The author would be inclined under favorable circumstances to give the former plan another trial; for, in the first place, the operation need not be severe nor attended with serious consequences, if strict attention is paid to sterility in instrumentation; secondly, the improved instruments recently made by Leiter, and the advantages derived from adrenalin in stopping hemorrhage, render manipulation more certain; and thirdly, the size of the tumor to be attacked by the injection afterward will be less even if only small portions are removed, and consequently the time required to check the disease shortened. In the female he has no doubt that this is the proper proceeding. Suprapubic cystotomy can hardly ever be wanted when access to the bladder is more easily gained through the urethra by the means of Kelly's tubes.

The Treatment of Hemorrhages of the Air-passages.

L. Page (*Journal of the American Medical Association,* Dec. 12, 1903) says that with our modern method of illuminating the air-passages the bleeding point should be located before any efforts at plugging or hemostatics are resorted to for the checking of the hemorrhage. In only exceptional cases, where the bleeding is from several different points on the membrane, and in those cases where gagging and vomiting render the parts inaccessible, should we try to check the flow of blood temporarily until its source can be determined.

The cocaine spray and suprarenal extract have proved to be invaluable aids in checking the flow of blood and diminishing the reflexes, thus enabling us to make a diagnosis. The ordinary surgical measures for checking hemorrhages in other parts, such as

the use of the ligature and artery forceps, are rarely of service to the laryngologist. Probably in no department of surgery is the operator so handicapped in the treating of hemorrhages as in the nose and throat. Large blood-vessels emerge from bony or cartilaginous walls to be distributed to parts accessible only by the most delicate instruments, and visible only by artificial light. To cut down on a vessel and ligate it is out of the question in the majority of cases. In a few cases this has been done successfully in the violent hemorrhage that sometimes follows the removal of the tonsils or adenoids. Keane reports two cases of ligation of the external carotid artery for severe hemorrhage following slight operations in the nose and pharynx. He says this is a simple operation, and every nose and throat surgeon should be prepared to perform it when life is threatened.

For the ordinary hemorrhages of the respiratory tract our resources are ample and effective. Suprarenal or adrenalin extract has proved invaluable in the writer's operative work. Some laryngologists claim that it is deceptive in that it is apt to be followed by intense reaction and secondary hemorrhage several hours after an operation.

Vaginal Injections in Obstetrics and as a Hygienic Procedure.

Lucas Championnière (*Presse Médicale*, Nov. 2, 1903) holds that much more care must be bestowed on the force, temperature, frequency of repetition of vaginal injections, and on the drugs employed, than is generally taken at present. In true septic affections of the uterus the medical man should interfere at once; injections merely lead away from the appropriate method of treatment, and taking its place delay or oppose what should effect a cure.

Jaborandi and its Alkaloid Pilocarpine.

J. M. French (*Merck's Archives*, December, 1903) says it is evident that in jaborandi we have a remedy of great power and exceptional value. Its virtues are mainly due to the alkaloid pilocarpine, which is nearly always to be preferred to the crude drug. Its action is simple rather than complex (as is well shown by comparing it with its great physiological antagonist, atropine) and consists chiefly in relaxing the tissues and increasing all the secretions, especially the perspiration, for which purpose it is the

most powerful agent that we possess. All its principal uses are dependent upon this one property of increasing the secretions.

Although spoken of as a stimulant to the secretions, its general effect is that of relaxation. Dependent upon its relaxant action is its depressing effect upon the heart, which is the principal drawback to its use, and limits its application to sthenic cases. It is contraindicated by asthenic conditions and cardiac complications.

Guaiacol in Parotitis.

Ragazzi (*Gazz. degli Osped.; British Medical Journal,* Nov. 28, 1903) speaks very favorably of a guaiacol ointment in the treatment of mumps. The preparation used contained one part of guaiacol to ten parts each of vaselin and lanolin, and was smeared on the parts twice a day, which were covered with oiled silk afterward. After the first dressing the pain is diminished, and totally disappears on the second or third day; fever is also decreased. The drug, moreover, seems to have a certain amount of resolvent action. It has been used with considerable success in orchitis, whether simple or secondary to parotitis. The guaiacol is absorbed, for it has been detected in the saliva in fifteen to thirty minutes after external application. Its beneficent action is possibly due to the neutralizing power on the toxins circulating in the blood which it possesses. The author gives brief notes of twenty cases where he has used guaiacol in the above manner.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Three Cases of Xeroderma Pigmentosum.

J. N. Hyde, before the Chicago Dermatological Society (reported in the *Journal of Cutaneous Diseases,* December, 1903), says that a peculiarity of xeroderma pigmentosum is the complexus of symptoms at an early age, and these symptoms can readily be grouped in four tolerably distinct categories.

1. Pigmentation, or freckling, is very distinctly marked, usually mostly on the exposed surfaces of the body (hands, face, forearms, upper chest), and in some instances over the lower extremities and dorsum of the feet, varying from a light fawn

to a deep chocolate color, deepening with years. Sometimes there are indistinctly isolated freckles or pigmentations; in other cases there is confluence, forming areas without very distinct circumspection.

2. Whitish spots—maculæ—which are atrophic in character. These symptoms precede and sometimes follow the freckling. The white spots are usually most conspicuous upon the exposed surfaces of the body, often about the orbits and other portions of the face, but they are also visible in other regions. The maculations are smooth, whitish, slightly wrinkled, atrophic, and in some cases shrink so as to produce cicatricial contracture.

3. Telangiectases—minute blood-vessels developing in the skin—which may be scarcely visible in artificial light. In the daylight there is a strong contrast between the freckling or pigmentation and the telangiectases. These latter vary in size from minute tufts to pinhead-sized elevated lesions.

4. The formation in different parts of the surface of the body (the hands, face, and elsewhere) of nodes, nodules, or warts, as they are sometimes called, practically all of them epitheliomatous; so much so that the disease has been described as a *senilitas præcox*. The other symptoms of the disease described by authors are secondary to those outlined under the four heads given. They are ulceration, breaking down of the warty growths, crusting, keratitis, ophthalmia, cicatrization following the ulceration, and in some cases the formation of a distinct epithelioma from the cicatrix.

The etiology is obscure. The prognosis in most cases is grave.

Is Scarlet Fever a Protozoan Disease?

On December 15 Dr. Frank B. Mallory, of Harvard University, announced to the Boston Society of Medical Sciences that he had demonstrated a protozoan in the cutaneous lesions of four cases of scarlet fever which had died in the eruptive stage. Dr. Mallory describes the stages of development of this parasite as similar to those of the malarial organism. It is, however, about one-third larger, and in the rosette stage contains twice as many segments. Its development in the human body is asexual. Whether a sexual development also occurs, as with the malarial organism, has not as yet been determined. Dr. Mallory does not claim that facts have been adduced which prove the bodies described by him are in reality protozoa, or that if such is the case

they are the causative agents of scarlet fever. He states, however, that in his personal opinion this is so.

It has been apparent for some time that endeavors to isolate the causative microörganism of scarlet fever from the blood of patients suffering with this disease were likely to prove indefinitely futile. Streptococci are the only microörganisms which have been isolated from such blood with a sufficient regularity to warrant serious consideration in this connection. Streptococci have also been obtained from the cutaneous and throat lesions of this disease, and likewise from the various serous effusions which are at times present as complications. Notwithstanding these facts, the foremost investigators of the world are to-day divided as regards the etiological relation of the streptococcus to scarlet fever. Considering our advanced methods of research, our present knowledge of the biology of microörganisms, and the large amount of work which has been done in the bacteriology of scarlet fever, it is but reasonable to assume that if the streptococcus were the causative agent the fact would have been established before now. —Editorial in *Medical Record,* Dec. 26, 1903.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Shortening the Round Ligaments by the Blunt Hook Method.

H. W. Longyear (*American Gynecology,* November, 1903) describes a method of shortening the round ligaments as follows:

The location of the internal ring is determined by finding the point of crossing of Poupart's ligament and the femoral artery, as the ring is situated immediately back and above it. Beginning half an inch inside this point and cutting toward the pubic end, parallel to Poupart's ligament, a one-inch incision is made through the skin, fat, and superficial fascia. Eye retractors and blunt hooks are then used, the tissues separated down to the aponeurosis of the external oblique, which is thus laid bare to the eye, to the extent of about one square inch. A puncture, one-quarter of an inch long, situated just above Poupart's ligament and to the back of the square inch of cleared aponeurosis, is now made through the aponeurosis, and through this the blunt hook is in-

serted and the ligament drawn out, usually with more or less of the fat of the canal along with it. The ligament is isolated and its fibrous attachments stripped back toward the internal ring with blunt-pointed dressing forceps, the ligaments drawn out to the necessary length, an aneurism needle passed through the aponeurosis, and the loop of ligament drawn through this, folded back on itself, and with one stitch of kangaroo tendon made fast, the suture embracing in its grasp the edges of the aponeurosis where the ligament first passes through it, half of the ligament at the same point, and half on each side of the loop that is folded back on it. The skin is then closed by a running catgut suture and dressings applied. The operation is applicable only to cases of mobile uteri without diseased appendages, in which cases it is an ideal procedure, or to cases in which adhesions may have previously been broken up by abdominal section.

A number of devices have been resorted to for the purpose of catching the ligaments and suturing them through the abdominal incision, and thus avoiding the making of the secondary operation in the groins, but they cannot expect to equal the method which leaves the shortened ligament in exactly its normal position.

The Value of Vaginal Cæsarian Section.

At the recent meeting of the American Association of Obstetricians and Gynecologists, M. Stamm (*American Gynecology*, November, 1903) read a paper on this subject. He stated that to Dührssen, of Berlin, the credit is due for having introduced this valuable method into practice. The clinical reports of operations undertaken on various indications speak in favor of its value. The indications for the operation, as given by Dührssen, are: (1) Abnormal conditions of the cervix and lower segment of the uterus (carcinoma, myoma, rigidity, stenosis, partial pouch-like distention of the lower uterine portion). (2) Dangerous conditions of the mother, which may be removed or relieved by prompt emptying of the uterus; affections of the heart, lungs, and kidneys. (3) Conditions of the mother in which death is imminent. The last two indications are of value only in cases when the cervix is closed and not dilatable, or where the depressing influences of labor pains should be obviated, as in affections of the heart and lungs. In pregnancy complicated with cancer of the uterus Dührssen advocates immediate vaginal section with subsequent extirpation of the uterus, no matter at what time of pregnancy or at what stage of labor this condition is encountered.

Dührssen's mode of procedure was described by the essayist, who stated that so far more than sixty cases of vaginal Cæsarian section have been reported. The majority of these were undertaken because of cancer of the uterus, but the number performed for puerperal convulsions is also increasing rapidly. He believes that the latter will furnish the chief indication for the operation in the future, as most authorities are agreed that rapid delivery is the most important factor in reducing its mortality. He also thinks that rapid dilatation may be resorted to.

On the Present Problems of Surgical Interference with Fibromatous Uteri.

D. Abnead (*British Gynecological Journal*, November, 1903) is specially concerned in finding the safest and most conservative method of treating the subjects of myomatous disease of the uterus. He discusses the various methods of operative treatment, including supravaginal hysterectomy, complete removal of the uterus per vaginam, and enucleation of the tumors by abdominal section or per vaginam. Myomectomy leaves the patient in full sexual capacity and health, and extends the indication for the surgical treatment of myoma very widely. In exceptional cases, where the myoma is of doubtful nature, hysterectomy may be necessary, but myomectomy, after opening the abdomen, is the operation of choice, because all the nodules can be seen with the eye and all vessels tied. Peritonitis, formerly the bugbear of operation, is not to be accounted a serious danger nowadays, when the modern methods of asepsis and antisepsis are used.

Taking into consideration the methods of surgical interference now practiced and the results obtained by them, the author comes to the following conclusions: (1) Earlier surgical interference is to be desired in cases of myomatous uterus; (2) the ideal method of operation is myomectomy, when this is fully conservative and does not maim the patient, and this completely conservative method of cure naturally widely extends the indications for removal of myoma of the uterus; (3) the field for conservative vaginal myomectomy is limited; (4) hysteromyomotomy being in all its aspects a maiming operation, should be limited to special cases; (5) when the diagnosis is established in an early stage the vaginal method of hysteromyomotomy is to be chosen; it is the safest way, and the asepsis does not require to be so perfect.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D., DETROIT, MICH.,
Attending Neurologist to Harper Hospital.

Amyotrophic Lateral Sclerosis.

In the *American Journal of the Medical Sciences* for June, 1903, Joseph Collins writes an exhaustive article upon amyotrophic lateral sclerosis, and after summarizing the pathological findings in a case which he reports, says of the disease: "Amyotrophic lateral sclerosis is a disease characterized by the symptoms of progressive muscular atrophy of the Aran-Duchenne type, complicated with bulbar involvement, plus spastic paresis, particularly of the lower extremities, and exaggeration of the tendon jerks all over the body. The morbid process upon which it is dependent consists in a decay of the peripheral motor neurons in the ventral horns, the terminal arborizations of the central motor neuron (in other words, the ending of the neuraxons that come down through the cord as pyramidal tracts), and of the pyramidal tracts themselves, and atrophy of column (strange cordonal) and commissural cells of the gray matter. The degeneration extends centrifugally in the peripheral motor neurons, centrifugally and centripetally in the central motor neurons. This constitutes when the process is complete a characteristic microscopic picture, the principal features of which are: (1) atrophy of the anterior horns and diminution or disappearance of all its cell constituents without noteworthy change in the blood-vessels; (2) degeneration of the fundamental tracts of greater or less extent; and (3) degeneration of the pyramidal tracts, which may be so slight as to be scarcely detectable, or so complete that it may be traced to the origin of these tracts in the motor cortex. The question whether the peripheral motor neuron (*i.e.*, the root cells of the anterior horns) or the central motor neurons (the pyramidal tracts) are the first to be involved cannot yet be answered."

Speaking further as to the etiology, he says: "Amyotrophic lateral sclerosis has, in the main, the clinical features of an active destructive disease, not a decay." And further: "Although I am willing to admit prenatal influences, there must be some more tangible and actively operative cause. It is not unlikely that we must look to the pathological chemist for the discovery of the real noxious agency."

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ORIGINAL CONTRIBUTIONS.

TUBERCULOSIS IN OUR PUBLIC INSTITUTIONS.[1]

BY JOHN S. TURNER, M.D., TERRELL, TEXAS.

When the chairman of this section requested me to write a paper on the subject just mentioned, I thought I realized the vastness of the field and felt fully my inability to properly cope with this very important subject, and especially in view of the limited amount of time I had to spare from my official duties; but my interest in the subject caused me to yield to his request, and I found the field even broader than I had anticipated, and I soon found myself enveloped in and overwhelmed by a flood of startling statistics and demonstrable facts.

From this immense amount of matter, all of which is interesting from a scientific point of view, I have culled a few thoughts that impressed me most, and give them to you.

I have taken up more or less thoroughly the history, statistics, treatment, or observation of five public institutions or persons connected therewith: three from our own State, one from the government service, and one in the far northeast—Massachusetts. I did this in order to give views from as widely diversified sections as possible, and from persons in various forms of special work in the profession who came upon tuberculosis as an incidental disease in the causation of other diseases, as well as from the specialist in that disease itself.

The unanimity of opinion existing among the profession as to the arrest or curability of the disease is surprising; as is the change that has occurred in methods of treatment and manage-

[1]Read before the Texas State Medical Society.

ment of these cases. The five public institutions that I shall mention are the North Texas Hospital for the Insane at Terrell, Texas; the State Lunatic Asylum at Austin, Texas; the Southwestern Insane Asylum at San Antonio, Texas; the Massachusetts Sanitarium for Tuberculosis, located at Rutland, Massachusetts; and the Government Sanitarium for Tuberculosis, located at Fort Bayard, New Mexico.

The North Texas Hospital for the Insane was opened for the reception of patients in the year 1886. From that time up to April 1, 1902, the following table of death-rate was found, which will be of interest in the study of this subject, to-wit:

TABLE I.

Year.	Number deaths, all causes.	Number deaths from tuberculosis.			Per cent deaths from tuberculosis.
		Males.	Females.	Totals.	
1886	37	1	6	7	18.9
1887	54	7	1	8	14.8
1888	36	7	1	8	22.2
1889	44	1	4	5	11.1
1890	30	4	4	8	26.6
1891	50	8	7	15	30.0
1892	71	8	8	16	22.5
1893	66	12	14	26	39.0
1894	52	5	9	14	26.9
1895	59	10	15	25	42.3
1896	65	11	4	15	23.0
1897	41	7	8	15	36.5
1898	56	3	13	16	28.6
1899	63	9	5	14	22.2
1900	69	10	11	21	30.4
1901	62	6	13	19	30.6
1902	56	6	6	12	21.4

TABLE II.

Form of insanity.	Males.	Females.	Totals.
Acute mania	1	4	5
Acute melancholia	...	6	6
Chronic mania	...	1	1
Chronic melancholia	1	...	1
Primary dementia	2	3	5
Recurrent mania	1	3	4
	5	17	22

The following is a table of causes of insanity of those who have died from tuberculosis in the past twelve months:

TABLE III.

Causes of insanity.	Males.	Females.	Totals.
Domestic troubles	...	2	2
Heredity	1	2	3
Ill health	1	2	3
Gynecological	...	1	1
Uterine disease	...	1	1
Religious excitement	...	1	1
Traumatism	1	...	1
Unknown causes	2	8	10
	5	17	22

The following tables show the number of persons now in the hospital who are suffering with tuberculosis, and the form and cause of insanity from which they suffer:

TABLE IV.

Causes of insanity.	Males.	Females.	Totals.
Unknown causes	4	14	18
Heredity	3	6	9
Masturbation	3	...	3
Injury	1	...	1
Fanaticism	1	...	1
Religious excitement	1	...	1
Overwork	1	...	1
Ill health	...	2	2
Bereavement	...	1	1
Fright	...	1	1
Gynecological	...	2	2
Pubescence	...	1	1
Epilepsy	...	1	1
	14	28	42

TABLE V.

Causes of insanity.	Males.	Females.	Totals.
Acute mania	5	8	13
Chronic mania	1	5	6
Acute melancholia	3	5	8
Chronic melancholia	...	1	1
Recurrent mania	2	5	7
Primary dementia	2	1	3
Mania epileptica	...	1	1
Paranoia	...	1	1
Chronic melancholia	1	...	1
Senile dementia	...	1	1
	14	28	42

It is interesting to note in Table I the wide range the percentage of deaths from tuberculosis takes; going from the minimum of 11.1 per cent in 1889 to the maximum of 42.3 per cent in 1895, dropping to 23 per cent in 1896 and rising to 36.5 per cent in 1897, becoming lower again in 1899, being only 22.2 per cent for that year, again rising to 30.4 per cent the following year, and remaining at about that per cent until this year (1902), when it promises to be lower than for thirteen years past, so far only showing a tuberculous death-rate of 21.4 per cent.

In my opinion this vacillation is due to several causes. For instance, in the year 1889, when the percentage was so low, the institution was new and had not up to that time become in anywise infected or contaminated with the pathogenic germs, and the patients that came to the institution, which had been filled three years before, had either improved from the change from musty, unsanitary jails and poorhouses, or in case of those in the advanced stage when they were received had died, thus leaving only a small focus from which tuberculous death-rate could emanate, comparatively few patients being admitted at that time for want of vacant beds. As the institution grew older and more crowded, and less air space was given each patient, tuberculosis increased, just as we would expect it to do under similar conditions at this time, especially if no precautionary measures were taken to isolate the individual suffering from the disease in its active stages. Again, the milk might have had to do with the infection of many patients, for in the exhausted, devitalized condition of many patients suffering from acute mania, melancholia, or primary dementia, we feed them largely on a milk diet, and in the ingestion of large quantities of milk, should there be a portion of infected milk given, we can readily see how this disease could and probably would attack a patient laboring under such a state of physical exhaustion. When additions were made to the buildings and the overcrowding was somewhat relieved, and new quarters and surroundings furnished, we see the death-rate go down again. We began to practice the closest scrutiny and immediate isolation of tuberculosis patients twenty months ago, and already see marked results from the same, our tuberculous death-rate promising to be lower this year than for more than a decade.

Table II reveals some interesting features of this disease; it shows that our cases, at least, are usually engrafted upon an acute or subacute attack of some other disease. For instance, in the twenty-two cases of tuberculosis that died last year, five cases followed an attack of acute mania, six cases followed acute melan-

cholia, five cases followed primary dementia, and four cases followed recurrent mania, while only two cases followed chronic mania and melancholia combined, making the percentage following an acute attack of disease 90.9.

Table III is interesting in that it shows that not a single case among those who died came into the institution with a tuberculous history as the cause of their insanity; three cases came with ill health as a cause of their insanity, and eight came with an unknown cause, evidently not tuberculosis, or it would have been known. We will admit that the three coming from ill health were all tuberculous when they arrived at the hospital, and we find that only 4.5 per cent of those who died from tuberculosis last year were admitted with the disease, while 26.1 per cent contracted it after coming into the hospital, showing clearly that a large percentage of our cases of tuberculosis contract the disease after coming to our hospitals.

Table IV, cause of insanity of the present tuberculous population of the institution, shows nothing more than that none of the cases came in under a tuberculous history; neither does investigation from the standpoints of avocation, civil condition, or geographical location reveal anything.

Our present tuberculous population represents 2.25 per cent of the entire population of the institution.

Table V corroborates Table II, in that the acute forms of insanity largely predominate in the present tuberculous population: thirty-one out of a total of forty-two cases now living in the hospital have an acute form of insanity as an original diagnosis, leaving only eleven cases to all the chronic forms of the disease.

I wrote the superintendents of the State Lunatic Asylum at Austin, and the Southwestern Insane Asylum at San Antonio, Texas, and propounded the following questions:

1. What was your death-rate last year, and what per cent from consumption?

2. Do you notice any difference in the infection in different parts of the institution—for instance, do you have more on the male or female side; if so, how do you account for the difference?

3. Do you have more in some wards than others; if so, how is the difference accounted for?

4. What has been your experience as to the infectious character of the disease?

5. In your smallpox epidemic did any tuberculous subjects contract the disease, or did you find them equally susceptible to vaccination with other cases?

6. What, in your opinion, is the proper method to be pursued by the State in regard to this disease as it pertains to our hospitals?

Reply from Dr. B. M. Worsham, superintendent of State Lunatic Asylum, Austin, Texas, was as follows: "In answer to your first question, namely, 'What was your death-rate last year and what per cent from consumption?' the total number of cases treated in this institution during the year ending 1901 was 1069, and of this number fifty-seven died, making the death-rate 5.33, and of this number eight were consumptives; therefore the per cent dying from consumption is 14.20. I have not been able to notice any difference in the infection in the different parts of the institution, and the disease seems to be equally divided between the males and females. I am positively certain that the disease is infectious, and that the confinement in a crowded building, lowered vitality, and in many cases a predisposition to the disease, furnish favorable conditions for the infection. With these conditions existing in all our institutions for the insane, and the further fact that we are compelled to place patients suffering with the disease in the wards with other patients, explains why the death-rate from tuberculosis is always so great. In our smallpox epidemic we had only eleven cases, and none of the patients who had the smallpox showed any evidence of tuberculosis. We have not been able to notice any difference as to the susceptibility to vaccination of consumptives and other patients. In my opinion it is clearly the duty of the State to prepare isolated buildings or wards for the care and treatment of consumptives. It might be interesting to know that for the last five or six years our death-rate from consumption has steadily declined, due, in my opinion, to the fact that we have been able to separate those suffering from the disease from those not infected—only in a limited way, however. Another thing which has in my opinion contributed very largely to the decrease in consumptives is the prohibition of the use of tobacco in the wards. By prohibiting the use of tobacco in the wards it not only improves the general tone of their health, but it makes it possible to keep the wards in a much more sanitary condition. It is a well known fact to all those who have had dealings with the insane that they very readily take to the immoderate use of tobacco, narcotics, and stimulants, and that the demented ones will not only use all the tobacco they can get hold of, but they will fish out old chews of tobacco and sputa saturated with tobacco from the spittoons and put it in their mouths. This practice, as a matter of course, is bound to lead to the development of

many cases of tuberculosis. Therefore I think we are not only justified in prohibiting its use, but that it is our duty to guard against its use as thoroughly as possible. With proper ventilation and heat, and the wards of an institution kept in a thoroughly sanitary condition, and all patients admitted into the institution suffering from tuberculosis placed in an isolated ward, I believe our insane population would be freer from the disease than the same number of people would be on the outside of institutions."

Reply from Dr. M. L. Graves, superintendent Southwestern Insane Asylum, San Antonio, Texas, is as follows: "Replying to your letter *scriatim,* I beg to say, first: We lost forty-seven patients last year, which was 5.5 per cent of the whole number treated during the year, and of the number ten, viz., four males and six females, died of consumption, being therefore a little above 21 per cent of our deaths due to tuberculosis. This is a little better record than previous years, as we have had more than 33 1/3 per cent at some times in our history. Question No. 2: In my judgment the terminal dements and others of reduced resistive power are much more subject to the disease, and this is especially true where crowding is bad, as it is in this institution. This fact is attested by the further fact that of the four males who died of the disease, three contracted the disease in the third ward, where there are more than sixty patients of the demented type largely, but the other male contracted the disease at the hospital, which is always a badly infected point. Of the six females who died of the disease, five were from C Ward, and one at the hospital. Of these, five developed the disease in the ward, and one probably had the disease prior to her admission here. Question No. 3: Experience here would, therefore, practically confine the contraction of the disease to the demented and crowded wards. In reply to your fourth question, regarding the infectious character of the disease, I beg to advise you that if the word infectious is synonymous with the word contagious, and means the acquirement of the disease by mediate or immediate contact through poisonous germs, I consider this disease a very contagious or infectious one. My personal experience here, as well as elsewhere, has taught me that consumption is directly due to contact of a healthy with the diseased person. Of our ten deaths last year at this institution, of consumption, all except one were directly traceable to infection from their diseased associates in the same wards. In reply to your fifth question, regarding the vaccination of the four males, two were successfully vaccinated, and the other two were too near their death at the time to be vaccinated. Of the

six women, three died before we vaccinated anybody. One did not take, having a very distinct scar upon the arm; one without any scar did not take; and one, the worst of the dements, although advanced in tuberculosis, took very freely. From this small experience a deduction is hardly warrantable, but I do not see any special reason why vaccination should not take unless the disease were nearing its end. In reply to question No. 6, regarding the State's duty to those diseased in this way, and more especially its duty to those not diseased, but who may become so by direct association, I beg to say that my views are very positive and practically in harmony with yours as set forth so well in your able annual reports. It occurs to me that the only sane thing to do in this connection is to isolate tuberculous patients immediately the disease is discovered, and segregate them in cottages properly designed and equipped for their treatment. This is the State's duty to the tuberculous and the non-tuberculous, and it is a positive shame to permit tuberculous patients to infect whole wards of the uninfected with this terrible disease."

We ascertained by writing the superintendents at Austin and San Antonio, and propounding the six questions above mentioned, that:

First, all Texas institutions for the care of the insane are in better sanitary and hygienic condition than for years, and that their management is abreast of the times; that tuberculosis is recognized and treated as an infectious disease, and as a result the death-rate is now much lower than formerly, and is being reduced from year to year; and that we are not only preventing the spread of the disease, but that many cases are arrested which come to the hospital in an already infected condition.

Secondly, the disease practically always follows an acute or subacute attack of some other disease. In Dr. Graves's report he states that the enfeebled demented cases seem most susceptible; in our cases it was those who at times suffered from acute outbreaks that were more often affected. We see in each case that tuberculosis follows a devitalized or exhausted condition of the physical and nervous forces, and that males and females are equally susceptible to the disease.

Thirdly, there is no division of opinion as to the infectious character of the disease, all maintaining that it is highly infectious and that it should be treated as such.

Fourthly, I undertook to learn something of the susceptibility of tuberculous patients to other infectious or contagious diseases, especially smallpox, but the other two superintendents had not

had much experience with that disease in their hospital life. My experience in the treatment of seventy cases of smallpox, and after doing more than two thousand vaccinations, led me to the conclusion that persons suffering from consumption are less susceptible to the infection of variola or to vaccination than the average healthy person. We had many insane and tuberculous patients who were both vaccinated and exposed to smallpox; it was a very low percentage which became inoculated with the virus, and none contracted smallpox. I have one patient in my mind now who came to the hospital on a stretcher, in an advanced stage of consumption, and soon after being admitted smallpox made its appearance in the ward in which he was being treated; there was no history of a previous vaccination, and he was repeatedly tried on fresh virus, that took successfully on other patients not affected with consumption, but all to no avail. He remained in quarantine with his ward, was never successfully vaccinated, did not contract smallpox, and is now in fine physical health, having gained over fifty pounds in flesh since coming to the hospital, and has shown no tuberculous symptoms for many months.

Lastly, there is no difference of opinion as to the course that should be pursued in dealing with and treating this most insidious disease.

We see that tuberculosis is an infectious disease that is easily transmitted to our fellows by indiscriminate coughing and expectoration, by the inhalation of dust containing tubercle bacilli, and by the ingestion of contaminated food or milk. B. Fraenkel says that "every consumptive infects at least one person in the course of the disease," leaving the inference that they may infect many.

The various governments, national, State, and municipal, are beginning to recognize the infectious character of this disease, as well as the ease with which it can be handled and arrested, yet we are confronted with the alarming fact that in 1890 the world's death-rate was 268.81 to the one hundred thousand population. But our State has not yet recognized this fact, though she will be forced to do so in time; she is now nineteenth among the States from the standpoint of tuberculous death-rate.

Massachusetts deserves the credit for establishing the first tuberculous sanitarium, in 1898. That nature, properly aided, does throw off tubercular invasions is a fact, in my opinion, clearly demonstrable. Then the question of properly aiding nature arises, and I unhesitatingly state that the best way to aid

nature in the restoration of those who are already affected, and moreover to prevent infection of others, is to send the patient to a hospital properly equipped for the treatment of this disease; the conditions that must prevail for the restoration of the patient are all compatible with hospital treatment, and in fact cannot be found elsewhere. We expect from hospital treatment to reduce febrile activity, to arrest catarrhal conditions, to reduce septicity, to improve nervous and circulatory tone, to stimulate digestion and nutrition, to improve environment, and to induce a state of well-being both mentally and physically. In order to carry out these conditions to the best advantage we must first find a suitable climate. In my opinion the best climate for most cases is one with an altitude of from four to six thousand feet above the sea level, with a temperature with the least range from a maximum general average of seventy degrees and a minimum general average of forty degrees Fahrenheit, and it should be a climate low in the table of precipitation. After a suitable climate is secured, then the patient is ready to begin to get well. To begin with, air and rest are the most important factors in this much coveted prize: light, fresh air, ventilation, and breathing space at night, together with sanitation, are to be recommended first; remain out-of-doors all day, if possible without producing fatigue; practice systematically and daily a method of hygienic gymnastics of respiration. Then comes diet, digestion, and assimilation; the diet should consist of raw eggs, oysters, wild game, occasionally fish eaten in moderation, rare steak, milk, butter, vegetables, and at times a farinaceous pudding, potatoes, or other forms of concentrated, easily assimilable foods that contain a small amount of residue. Feeding can be practiced with benefit at intervals of two or three hours when judiciously done, especially in advanced cases where nutrition and vitality are at a low ebb. The digestive and assimilative powers must be stimulated if we succeed in the treatment of this disease. Professor Osler states that "the arrest and cure of the disease is entirely a matter of nutrition. The whole object of the treatment is to fortify the patient's constitution against the inroads of the disease so that the individual cells of the body have the stamina to fight against and destroy the tubercle bacilli. 'All therapeutic measures,' says Marfan, 'should be devoted to this end,' and the earlier such measures are instituted the greater the prospect of cure. According to all authorities, the best method of treatment is to remove the patient to a suitable climate, supply an abundance of nutritious food, and administer those remedies the action of which is to help nature maintain the integrity of the

tissues and to supply those elements already destroyed by the disease."

In the practice of the foregoing methods we are fortifying the patient so that nature's usual methods of defense can be carried forward. Medication, while very important, is regarded as a secondary or even tertiary consideration in this disease by our latest writers, and alcohol, once thought to be indispensable in the treatment of this disease, is now entirely prohibited in many institutions for the treatment of tuberculosis. We recognize in cod-liver oil, hypophosphites, and cognac brandy to a limited extent, remedies of value, as well as the many other pharmacopœial remedies used for intercurrent conditions that frequently arise. The idea that I desire to convey is that there is no specific medication or nostrum used by our most successful men in the treatment of consumption.

The following article on treatment is clipped from the report of the Massachusetts Sanitarium, printed in the *Dallas News:* "Dr. Herbert C. Clapp, reporting for the visiting and examining physicians, says it has been conclusively shown that alcohol is worse than useless in the treatment of consumption, and that cod-liver oil is not indispensable. He says: 'It is interesting to note that in the three years during which our State Sanitarium has been in operation practically no alcohol whatever has been used in the treatment of patients, and yet our success has been phenomenal. For a long time, until within a few years, the almost universal custom (as it is now with some physicians) has been to give it, often in large doses, to every consumptive, as a routine measure, and the doctor who withheld it was looked upon as culpably negligent. The late Dr. Austin Flint, of New York, one of the most illustrious authorities in this disease that America has ever produced, often recommended it to be taken continually in the form of whiskey, in varying doses, up to a pint in twenty-four hours, and comparatively few physicians disagreed with him as to the wisdom of such a course. Of late years, however, opinion has been fast gaining ground with many that such treatment is unwise and prejudicial, and that greater success can be obtained without it. Indeed, it is now believed by many eminent phthisiologists that, instead of exerting any antagonistic influence, alcohol is one of the most common and powerful causes of the disease. At the recent British congress on tuberculosis, with expert representatives present from the whole world, the eminent Professor Brouardel, of Paris, in his paper claimed that "alcoholism is the most potent factor in propagating tuberculosis." Surely our experi-

ence at Rutland, in this bleak New England climate, has proved at least that alcohol is not a necessity in the successful treatment of consumption. Some of our patients have taken a few drops of wine with their raw eggs to correct the flat taste, but the amount of alcohol thus used has been too small to do either good or harm. Our experience at Rutland for three years would also seem to show that cod-liver oil is not, as many practically believe, an indispensable agent in the successful treatment of phthisis. Only a small percentage of our patients—perhaps five per cent—have had any at all, and these not continuously. Its use has been restricted to those cases in which little or no weight was gained under the ordinary sanitarium diet, and in these, as a rule, it did not seem to produce any remarkable effects.' "

It is also said that in the government sanitarium at Fort Bayard, New Mexico, there is strict prohibition of alcohol in ambulant cases. The various methods of the arrest of pulmonary tuberculosis are described by Williams in the *Journal of the American Medical Association,* who notices, first, "the quiescent tubercle in the form of caseous masses containing tubercle bacilli, which are often found in the lung. Miliary tubercle is sometimes converted into fibroid tissue, but with the caseous masses fresh local infection is quite possible and intelligible. Another form of arrest is that tubercular nodules become obsolescent, surrounded by chronic localized emphysema, which prevents the detection of tubercle by physical signs. This is one of the commonest endings of tubercles. The owner of the lungs that have gone through this process is generally a short-breathed individual with a large, motionless chest, and is credited with being asthmatic. Many of these cases die of hemoptysis. The third form of arrest mentioned is contraction of the cavity and increase of fibrosis, causing a shrinking of the whole lung; the walls of the cavity approximate and heal by cicatrization, though this is rare."

Many evidences of the arrest of tuberculosis are seen in our post-mortem rooms. These conditions of arrest come about after from four to six months sanitarium treatment, at which time the patient is very much improved or the disease entirely arrested, and if the proper precaution is maintained in after-life, I might say cured. These conditions must be brought about by hospital methods, as there are many reasons, too numerous to mention, why these cases cannot be so successfully treated in the home as they can be in properly equipped hospitals.

We have a number of patients in the North Texas Hospital for the Insane, who came in advanced stages of tuberculosis, some

so weak as to be unable to walk, who are to-day fine specimens of physical manhood, having gained many pounds in weight and would never be suspected of ever having been tuberculous. The results were obtained by close observation, dieting, sanitation, open air, and prohibiting the use of tobacco in any form in the wards.

The duty of the State is to establish consumptive cottages at every public institution where the insane, epileptic, or convict is confined, and cause the closest scrutiny and isolation to be practiced; then we will soon eradicate the disease from the public institutions. There should be established, under State care, sanitariums for the treatment of tuberculosis as a protection to its citizenship; and these institutions should be conducted along purely scientific lines, politics having no part in the management. It is truly said by Dr. H. M. Bracken, secretary of Board of Health, St. Paul, Minn., that "it rests upon physicians in this country, through their various medical organizations, to transform the great body of medical sanitariums into medical specialists beyond and above the influence or control of politics."

OCULAR THERAPEUTICS.

BY A. W. CALHOUN, M.D., LL.D., ATLANTA, GA.

Chemistry is continuously presenting to the attention of the profession such a mass of new remedies that it is quite difficult to consider them all or decide which are worthy of being retained. There are some, however, that deserve high places in the esteem of the specialist, and to these I wish to direct the attention of the oculist. It is not my purpose to discuss other than the more recent remedies.

In ocular therapeutics cocaine has long since attained such a high place among the comparatively newer drugs that it needs only to be mentioned as one of the indispensables in ophthalmic practice, the use of which is not to be supplanted.

Protargol, in ophthalmology, is beyond question one of the most valuable remedies given us in recent years. It is in the form of a fine, yellowish powder, contains about eight per cent of silver, and is freely soluble in water. It is considered better than any inorganic silver salt yet used. Its application produces almost no pain, is an excellent antiseptic, and is less dangerous to the corneal epithelium, at the same time penetrating deeper than the silver nitrate, and on this account can be used much more

freely and frequently. Its long-continued use will occasionally cause argyrosis, contrary to the observations of some writers. I have seen several unmistakable cases recently. One of its chief advantages over nitrate of silver is the fact that in 5- to 20-per-cent solutions it can be applied to the conjunctival surfaces three to five times a day, or oftener if necessary; and to make its action more effectual, it can be applied by the patient's attendant. As a prophylactic in ophthalmia neonatorum, several authors have used it in 2- to 10-per-cent solutions, and consider it preferable to the 2-per-cent solution of nitrate of silver, as used in Credé's method, because of the slight conjunctival inflammation caused by Credé's method. There is no irritation when the protargol is used. Nitrate of silver, as a prophylactic, has not been in general use because of the objectionable fact that it causes more or less irritation; but protargol being just as valuable and of easy application, and this objection being eliminated, there is every reason why it should be adopted in routine practice, both by the oculist and general practitioner. Protargol has a very broad field of usefulness in the different ophthalmias, in some of which the results could not be more satisfactory.

Its greatest usefulness is perhaps shown in the acute suppurative conjunctival inflammations. In gonorrheal ophthalmia and ophthalmia neonatorum the effect is often brilliant, in many instances acting almost as a specific. The customary precautions in regard to cleanliness, antisepsis, etc., should be carried out, and the protargol in 5- to 10-per-cent solutions (as strong as 50-per-cent solutions have been successfully used on adults) should be applied by means of cotton over the conjunctival surfaces two or three times a day. In these two diseases in particular it is certainly an important advance upon the silver nitrate.

Indeed, it acts satisfactorily in all acute suppurative conjunctival inflammations, in phlyctenular conjunctivitis, and in purulent dacryocystitis, by injections into the lacrimal sac, and even in some forms of corneal ulcers. It acts splendidly in dacryocystitis in infants, using it several times a day and thoroughly emptying the sac of pus just before instilling the protargol. In chronic conjunctivitis, trachoma, and kindred inflammations, it seems to have but little effect, except in those cases in which more or less suppuration is caused by the granulations. In the shape of a strong ointment it is recommended in blepharitis.

Argentamin, another of the new silver compounds, has been much used in affections of the conjunctiva by many writers, and highly praised by those who have had experience with it. In

trachoma it is specially recommended, as it penetrates far deeper into the tissue, and is more germicidal, than the silver nitrate. "Therefore," says one observer, "argentamin is indicated in acute and chronic conjunctival catarrhs, in trachoma, in follicular catarrh, in ophthalmic blennorrhea, and in infantile blennorrhea, both as a prophylactic and as a remedy." It is used in a 5-per-cent aqueous solution by being painted on the everted conjunctiva in the ordinary manner three or four times daily.

Argonin and nargol are two of the most recent contributions to ophthalmic remedies. They are given to us as improved forms of silver, and are said to be efficacious in the same class of diseases for which the silver nitrate has been used, with none of the bad effects of the latter.

It would seem that we are about to be flooded by the energetic and wide-awake chemist with new remedies for the cure of conjunctival disease. For example, we have the new silver preparations—abrin, actol, largin, and itrol. Advocates abound for each of these, who, after satisfactory trials, recommend them for the cure of acute and chronic affections of the conjunctiva and other diseases. And still others, as iodic acid, used in solid sticks in chronic trachoma; acetico-salicylic acid (aspirin), an antipyretic and antineuralgic, recommended in eye diseases, dependent upon a gonorrheal-rheumatic basis; guajasano, used in one-per-cent solutions as a cleansing agent in slight conjunctival inflammations; validol, employed in fifteen- to twenty-drop doses in headaches and visual disturbances, in scintillating scotoma; alumnol, indicated in purulent conjunctivitis; xeroform, used in traumatic and infected corneal wounds, and said to be more effective than iodoform; dionine, a morphine derivative, is a local analgesic and is employed in the deep-seated pains of iritis and glaucoma; acoine, when used with a subconjunctival injection, renders the injection painless; arecolin (the only new myotic we have) is used in 10-per-cent solutions—its action lasts a shorter time, but it is much quicker than eserine.

The most remarkable and interesting medicament that has been evolved in recent times is, perhaps, adrenalin, for before it lie unlimited possibilities. In the place of solutions of the suprarenal gland, we now have its active principle, adrenalin chloride, perfected and given to us by Dr. Takamine. A single drop of a solution of 1 to 10,000 instilled into the eye blanches the conjunctiva in less than a minute, leaving the pupil neither dilated nor contracted. In nearly all inflammatory conditions of the eye it is useful, as it is without injurious properties, neither poisonous

nor irritating, and is the most powerful of all known hemostatics or astringents. The ordinary operations upon the eye are rendered bloodless by its use, and by the addition of cocaine, painless. Indeed, using the two remedies at the same time intensifies the effect of each. In all the conjunctival diseases where protargol is indicated, apply adrenalin after the use of the former and excellent results are obtained. In corneal ulcers (catarrhal), phlyctenular troubles, scleritis, keratitis (even interstitial), and acute eczema of the lid it is invaluable. I am sure the cure of trachoma is hastened by its use. Injected into the tear duct it reduces the swelling in dacryocystitis and lessens the discharge rapidly. The dacryocystitis of infancy is cut short by it. It is without doubt good in iritis, acting not only as an astringent, but augments the effect of the atropine and clears up the muddy vitreous and aqueous humors. I have had but little experience with it in glaucoma, but it has been recommended here for the reduction of ocular tension, and I have no doubt of its good effect in acute glaucoma. Neither have I used it in iridectomies or cataract extractions. We have in it a wonderful agent in controlling local congestions and inflammations, and in eye, ear, nose, and throat work it is indispensable.

Atrabilin and epinephrin, both preparations made from the suprarenal capsule, are recommended for the same purposes for which adrenalin is used, but will probably not hold their places alongside the latter.

Among the comparatively recent drugs for the production of local anesthesia, holocaine has proven its value and its efficacy in so marked a manner that we may consider that it has come to stay. One prominent writer says: "Holocaine should supersede cocaine in ophthalmic surgery." In many cases it can be used to greater advantage than cocaine, because it does not dilate the pupil or disturb the accommodation or increase the tension, and is often efficient in cases of inflammation which resist cocaine. In one-per-cent solutions it is antiseptic, acts quickly and causes no pain, and less hyperemia and less disturbance of the corneal epithelium follow its use than of cocaine. This is an important point, as we often keep the eye anesthetized for half an hour to an hour. As it is systemically poisonous, it should not be used hypodermically, nor applied to other than ocular mucous membranes. Holocaine does not primarily contract the blood-vessels, and therefore does not tend to control hemorrhage as well as cocaine—indeed, the bleeding is more free; hence for muscle operations it is not quite so desirable as cocaine. It has been

found to be of great value in operations upon the cornea, iridectomies, and cataract operations.

Eucaine is another proposed substitute for cocaine. Favorable reports have been given, but as a rule the trend of opinion is that it is not so satisfactory as the before mentioned local anesthetics.

Nirvanin, still another anesthetic, has been recently proposed for local use, but it has not as yet been much used in ophthalmology. A few writers, however, speak well of it.

Euphthalmin, in five- to ten-per-cent solutions, is an excellent and powerful mydriatic, dilating the pupil in fifteen to twenty minutes sufficiently for ophthalmoscopic examinations, and in thirty to forty minutes to its maximum. At the end of twenty-four hours the contraction of the pupil is complete. On account of its brevity of action it is superior to any other mydriatic; in fact, it is without a rival when used for dilating the pupil for diagnostic purposes. It affects the accommodation only very slightly, and no unpleasant systemic effects have been observed, but it is known to act less promptly in the aged than in younger persons. As an aid in ophthalmoscopic examinations, it is entitled to a prominent place in ophthalmological work.

I need only mention homatropine, cocaine, and scopolamine as substitutes for atropine for diagnostic purposes; but I can recommend the mixture of two per cent each of cocaine and homatropine as acting admirably in examinations of the refraction.

Under the head of ophthalmic therapeutics or medication it is interesting to note that the subconjunctival injections of bichloride of mercury are not so much in vogue as formerly, because of the danger of more or less serious local inflammation resulting, and besides, so little of the antiseptic enters the eye that it is of no practical benefit. On the other hand, the use of subconjunctival injections of normal salt solutions is increasing, is without danger, and specially indicated in parenchymatous keratitis, chronic corneal ulcers, iritis, choroiditis, opacities of the vitreous, retinal detachment, etc.

A multitude of suggested remedies have not been considered in this paper, but the foregoing review would warrant the statement that the oculist has not been remiss in studying and adopting most of the recent good things in the way of ophthalmic medication.

CATARRHAL LARYNGITIS: TERTIARY ULCERATION OF THE EPIGLOTTIS.[1]

BY SAMUEL G. DABNEY, M.D.,

Professor of Ophthalmology and Clinical Professor of Otology and Laryngology in the Hospital College of Medicine, Louisville, Kentucky.

GENTLEMEN—This woman, aged forty-five years, comes to us complaining of throat trouble, which has existed, she says, more or less all her life, but has been worse during the last few months. She tells us that her throat smarts and burns, and she also complains of soreness in her chest.

This case is well worth showing to you, not because of the marked symptoms present in the throat, but rather from the absence of them. She has lost considerably in weight during the last few months. Her father died of "dropsy," mother died of pneumonia. There has been no lack of trouble in her family, and the general health of this patient is poor—she is run down in health generally.

Here is a woman forty-five years of age, evidently approaching the climacteric, who comes to us complaining of pain about her throat. She presents very little in the way of objective symptoms in the throat itself—some little redness of the mucous membrane, some slight catarrhal laryngitis. She is much below par in general health, she has lost in weight, she feels tired and languid all the time, and her digestion is poor. Her family history, so far as we can ascertain, does not elicit any tendency toward disease of the air-passages.

This case is brought before you to illustrate the fact that not infrequently patients will come to you complaining of pain and discomfort about the nose or throat which may be purely symptomatic of some disturbance elsewhere. Sometimes the underlying cause is rheumatic in character, sometimes there may be present a slight catarrhal inflammation, that if the person were in good health would hardly be observed, but when the general health has suffered all the symptoms appear aggravated.

Of course the indication for treatment in these cases is to build up the general health, very little being demanded in the way of local medication. If the underlying cause is rheumatism, we would give them salicylate of soda or salol with some phenacetine now and then when pain is severe. If the trouble is due,

[1]Clinical lecture delivered at the Hospital College of Medicine.

as appears to be true in this woman, simply to an impaired general condition, we should endeavor to build up the constitution by means of the reconstructive tonics.

She says she is subject to constipation, but in other respects is regular in her habits. Menstruation has always been regular and normal. Suppose we recommend for this woman the following treatment: We will give her some Fellows' syrup of the hypophosphites, which has a little strychnine in it, rather less than we are in the habit of giving nowadays, still enough to be valuable, as well as the ingredients which its name indicates. She will take a teaspoonful of this in water after each meal. And we will give her, to be sprayed into her throat, a weak astringent, five grains to the ounce of nitrate of silver, to be used in an atomizer as may be needed. Following is the formula:

℞ Argent. nit.....10 grains.
Aquæ dest..... 2 ounces.

M. fiat solutio. Use in atomizer as directed.

Our duty is not fulfilled in regard to this woman if she fails to improve under these measures. It will certainly behoove us to have her chest carefully examined, and also to have her sputum examined by the microscope, otherwise we will have omitted a very important aid in the diagnosis. It is always well to bear in mind in such cases as this the possibility of pulmonary involvement, though the symptoms at present in this direction do not seem to be decided.

We will regard the case at present as merely one of catarrhal inflammation of the pharynx and larynx accompanying marked general debility, impaired digestion, constipation, slight cough, loss of weight, and will direct our attention chiefly to the general condition of the patient; and if she does not improve with reasonable speed under the measures we have outlined, we will have her chest examined, and also submit a specimen of her sputum to examination by the microscope.

The next patient is an old friend of ours, and to some of us she has been a rather useful friend. She is thirty-four years of age, married, one child living; two miscarriages, one eight and the other six and a half years ago. The children were both born dead.

She has not had, so far as she is able to remember, any eruption on her skin; she has never had any inflammation about her eyes; she has never up to the present date been the subject of sore throat; she has never had any enlarged glands about her

body; she has never had any falling out of her hair; she has never had pain in her bones or elsewhere—in short she gives, so far as specific history goes, a clear bill of health to the best of her knowledge and belief.

Upon inquiry about her present condition, we learn that about two months ago she had some hoarseness, with pain that shoots up toward her right ear, but she can swallow without great discomfort. There has been but little impairment in her general health.

When she presented herself to us there was a condition present which was almost certainly specific in character; the right half of her epiglottis was practically destroyed, sloughed off, a deep extensive ulcer. Now, such ulceration as we found present in this case at that time can be only one of three things, viz., syphilis, tuberculosis, or cancer. If tubercular there are almost always other symptoms present, and almost invariably Koch's bacillus will be found; there would also be intense pain on swallowing, and there would also probably be a tuberculous dyscrasia. If malignant there would almost certainly be enlarged glands, there would be a malignant dyscrasia, great impairment of the general health, more intense pain than has ever been present in this case. So we are left with the probable diagnosis of specific disease.

We would in any case, if there was reasonable doubt, try specific treatment, and the result would aid us in the diagnosis; but if there was ever any doubt in this case it was quickly dispelled by the fact that this patient has a daughter who has typical Hutchinson teeth, and diffuse interstitial keratitis. So if we needed any corroborative evidence as regards this woman's trouble, we would find it in the daughter. Then if we needed still more confirmation we would find it in the wonderful improvement which this patient has shown under the administration of iodide of potassium.

So that here I show you a case with a lesion which, leaving all history out of the question, however negative the history may be, is almost pathognomonic of specific cases. I call your attention to the comparatively slight pain, only some little difficulty on swallowing; I also call your attention to the fact that though the right half of the epiglottis is destroyed, still she swallows with reasonable ease. Note the absence of any marked dyscrasia, either malignant or tubercular; the comparatively slight impairment of the general health; the absence of enlarged glands of the neck, which there would have been in all probability with malig-

nant disease in this situation; and finally the wonderful improvement that has taken place under the administration of iodide of potassium, and the Hutchinson teeth and diffuse interstitial keratitis in her daughter.

While, as I have already stated, the diagnosis would be comparatively easy, from the nature and appearance of the lesion in the throat, in the absence of any personal or family history, when this history is brought before us as outlined it positively excludes everything else except syphilis.

The patient is still taking iodide of potassium in fifteen-grain doses three times a day; the lesion in the throat has almost completely healed, and she is much improved in every way.

FIBROMA OF THE ARM.[1]

BY J. GARLAND SHERRILL, A.M., M.D.,

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GENTLEMEN—This young man, twenty-three years of age, noticed about six years ago a small enlargement about the size of a walnut on the inner surface of his left arm, two and a half inches above the elbow-joint. It grew very slowly for a time, but within the last year it has increased in size rather rapidly, until now it is as large as a small orange, and has given him some pain and discomfort.

The growth now extends up almost to the point where the musculospiral nerve passes around posteriorly to the bone. The skin is freely movable over the tumor; the tumor itself is somewhat movable, but seems to be more or less fixed to the deeper tissues. It does not move with the muscles when he contracts his arm, it remains stationary; it does not move up and down, showing that it is not connected with the muscular tissue; it is firm, not very hard, but is evidently a solid growth.

The diagnosis here would lie between, first, an aneurism; secondly, a cyst; thirdly, a fibroma; and fourthly, a sarcoma. We have pulsation over the top of this tumor, showing the direction of the brachial artery, which lies directly on top of the tumor itself. This might be confusing and make one think he was dealing with an aneurism. We find, however, upon close examination that there is no expansile pulsation; the pulsation is up and down,

[1]Clinical lecture delivered at the Kentucky University, Medical Department.

showing pulsation of the artery itself, and not the expansile pulsation of an aneurism. Moreover, by listening over the growth we find no aneurismal bruit. A cystic growth is not likely to occur in the arm at this point; and for that reason, together with the fact that it is non-fluctuating, we are able to exclude a cystic tumor.

A fibroid tumor generally grows slowly and does not infiltrate the surrounding tissues; it is usually painless and is a benign growth. This tumor gives us all the symptoms of a fibroma. It has grown slowly, although in the lower part of the tumor the growth has been more or less marked. It did not give the patient any pain until pressure upon the nerve occurred. It is circumscribed and encapsulated, and therefore it is quite probable that it is a fibroma. A sarcoma might pursue exactly the same course, growing slowly at first, then suddenly taking on active enlargement and infiltrating the surrounding tissues, being encapsulated first, later on bursting through its capsule and infiltrating the surrounding structures. Therefore I would not make a positive diagnosis between these two conditions (fibroma and sarcoma) until I had assured myself by a microscopical section of the growth. If it is found that this is a cancer, if the growth recurs after removal, then it will be necessary to amputate the arm at the shoulder to save the man's life, with the use of the Coley fluid, the injection of the toxin of the streptococcus erysipelatis and the bacillus prodigiosus, as a prophylactic measure to prevent a return.

It must not be forgotten that we might have a swelling apparently like this from tuberculosis of the bone. A gumma of the deeper connective tissue might also produce a growth of this kind; but this man gives no history of either tuberculosis or syphilis, and the tumor is too firm for a gumma, therefore my provisional diagnosis is that it is a fibroma, which may have to be corrected when we excise the growth and submit a section of it to microscopical examination. There is a suspicion of sarcoma owing to the rapid growth which has taken place during the last year.

You notice in the preparations for this operation we try to be as aseptic as possible; we are using for hand sterilization a preparation of carbolic acid and alcohol half and half. This preparation has been used experimentally and found to be excellent. There is the objection to it that your hands are likely to be burned by the carbolic acid unless you immediately immerse them in alcohol after using the carbolic acid, and then rinse them in

sterile water. It is not claimed that this is an absolute germicide, nor is it thought to be entirely free from damage to the skin.

We will use a tourniquet, which is placed around the arm near the shoulder, in order to prevent the loss of blood. For a tourniquet this small rubber tube is used, which I think is the best means known. Under this rubber tube always place a towel in order to prevent constriction of the tissues and damage to the skin. It is more difficult to constrict the circulation when you do this, but it is the better plan. You can precede this if you like by an Esmarch bandage, which will force the blood out of the arm. My reason for not doing that in this case is that I am not absolutely certain of the character of this growth, and if it is a sarcoma I do not care to push any of the infectious material into the tissues above the tumor. I am firmly convinced that while sarcoma has not been absolutely demonstrated to be due to a parasite, it is an infectious trouble. It is first a local condition, then constitutional, spread by metastases; therefore we will take no chances here.

In making the incision we must note the landmarks and keep inside the brachial artery with the incision. As a matter of course we shall have more or less venous oozing, as the veins here are prominent and will necessarily give rise to some hemorrhage when the tourniquet is removed.

We find after making the incision that this tumor is firmly adherent to the blood-vessels, and it will have to be dissected out carefully. The tumor has every indication of being a sarcoma, and this is the reason it involves the tissues so extensively. Sarcoma tends to infiltrate and get beyond its capsule, and this growth has done so. It lies in direct contact with the median nerve. Of course we will avoid the nerve if possible. The growth apparently springs from the fascia over the brachialis anticus.

I have dissected out the growth carefully, and will apply some pure carbolic acid followed by alcohol; my reason for using pure carbolic acid is that it will destroy any parasites that are in the wound and prevent contamination of the surrounding tissues. I believe Phelps was the first to recommend this procedure, although we were using it here before I saw his work. It is especially useful in bone disease due to tuberculosis.

Before any suturing is done we will loosen the tourniquet, but before taking this step the venous hemorrhage is carefully arrested. A small branch from the brachial artery must be twisted or tied. Where it is possible to do so I would rather

twist a small artery than ligate it to arrest hemorrhage. This small vessel is isolated and twisted with forceps, and you see hemorrhage immediately ceases. If you are not careful to clamp the vessel before twisting, you may twist it too high and bleeding will occur into the tissues above.

Following pressure at this point there has been extensive hyperemia. Hyperemia is not inflammation by any means; we may have hyperemia without inflammation, as shown by this illustration, the same as takes place in blushing. The nutrient vessel of this growth seems to come from below, a large recurrent artery, which lies between the biceps and longus.

The hemorrhage is easily arrested and the wound can be closed without packing, which is very desirable for quick repair. Owing to the large amount of dead space we insert a small catgut drain, which will be taken care of in a few days after its usefulness is over. The wound is sutured with catgut and a dressing applied, which will be allowed to remain for a week.

THE Seventh International Congress of Otology will be held at Bordeaux August 1 to 4, 1904. Those intending to take part in the work of the congress are requested to send the subscription of 25 francs to the treasurer, Dr. Lannois, Rue Emile-Zola, 14, Lyons, France, before May 1; and any one proposing to read a paper at one of the sessions is requested to send the title with a brief abstract to the secretary-general, Dr. Lermoyez, Rue la Boetie, 20 bis, Paris, on or before the same date. The official languages of the congress will be English, French, German, and Italian.

THE United States consul-general at Munich states, according to the *Medical Record,* that the Bavarian Minister of Cultus has opened the doors of the University of Munich to women on the same terms as for male students. For the present it limits its admission of women by regular matriculation to such as possess the "abituria" of a German gymnasium. American women graduates of recognized colleges, but not possessing the gymnasial abituria, are admitted only as hearers, and although with the consent of the faculty they may pursue a regular course of study and finally come up for a degree, they have not the rights of the German students. It is to be hoped, however, that the authorities will eventually concede to American women students the same advantages that are now offered to men who are graduates of recognized colleges in this country.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

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EDITORIAL ARTICLES.

THE ADMINISTRATION OF ANESTHETICS.

The relations that exist between the patient, the surgeon, and the anesthetist are very close and intimate at the time of an operation. They are in a great many instances not nearly as satisfactory as might be. This is owing to the fact that too often the individual selected to administer the anesthetic is not properly qualified for the responsible task he undertakes.

In the majority of hospitals the anesthetics are administered by some young interne, who fresh from college has had practically no training whatever. The interne cannot be blamed for his lack of knowledge, for very little has been taught him while at college of this very important branch of medicine. As a result of this system patients who are subjected to the unskilled administration of chloroform or ether are greatly inconvenienced and alarmed, the success of the operation is greatly interfered with, and human life is often unnecessarily sacrificed. It is a singular fact, but one nevertheless true, that patients in hospitals so long as they are conscious have at their disposal the services of the best medical and surgical talent obtainable, and yet when it becomes necessary to render them unconscious to hand them over to the care of comparatively uneducated and inexperienced young internes, who are left to do the best they can for their patients during what may be to the latter the most critical moments of their lives.

To remedy this present inefficient system there ought to be established in all large hospitals a special department for the giving of anesthetics. This department should be in charge of a house physician who has shown special aptitude for this form of work. Resident anesthetists should be appointed in all hospitals where there is sufficient work of this kind to warrant it. No

anesthetic should be administered except by or under the supervision of a specially appointed anesthetist, and no anesthetic should be the given unless two qualified persons are present. It should be the duty of the special anesthetist to instruct junior house officers in the administration of anesthetics, so they in turn may be qualified to instruct others.

The time has come when the staff of every reputable hospital should have one or more thoroughly qualified anesthetists with a position equal to that held by the physicians and surgeons of the institution. The adoption of some such system as has been outlined would greatly improve the state of affairs that now exist. The dread of surgery in the lay mind would be greatly lessened and deplorable accidents due to anesthetics seldom heard of.

EDITORIAL NOTES.

The Dangers of Handkerchiefs.

According to a New York paper, the question of welcoming speakers at the recent meeting of the National Woman's Christian Temperance Union by the fluttering of handkerchiefs was discussed by the members. One of the delegates declared that from a hygienic standpoint the habit was a most reprehensible one, distributing as she claimed the germs of colds and grippe. The lady was unquestionably right in her declaration, as it is now generally admitted that the majority of colds are of germ origin and therefore highly infectious. The practice of blowing the nose into a handkerchief, and then carefully placing it into the pocket to harbor germs, is a bad one, and undoubtedly causes many a coryza that might otherwise be avoided. It would be a distinct step in advance if we should adopt the method followed by the Japanese of using handkerchiefs of tissue paper, and throwing them away immediately after using them once.

Rejections by the Navy.

The report of the Surgeon-General of the Navy for the year 1902 shows the total number of applicants examined was 31,826; 488.62 per 1000 were rejected for various causes. The number rejected for color blindness was 27.9. This report shows that a larger number of individuals are affected with color blindness than is generally supposed.

ITEMS AND NOTES.

A MEDICAL library has been started in Toledo with cash subscriptions of $200, and a collection of about 2000 volumes.

AN epidemic of cholera is reported to be raging at Kerbela, south of Bagdad. From December 9 to 12, 176 deaths were recorded.

THE new medical laboratory of the University of Pennsylvania, costing about $500,000, is expected to be ready for use next month.

THE vital statistics for the year 1903 show 9260 deaths from pneumonia, 13 per cent of the total mortality, and 7570 deaths from tuberculosis, in New York City.

NEARLY 30,000 barbers have been registered under the new law in New York State, which forbids the knights of the razor to ply their trade without registration and license.

THE tenth anniversary of the discovery of the Roentgen rays will be celebrated next spring at Berlin by a special Roentgen congress and exhibition, at which Roentgen will be the guest of honor.

ARSENIC in appreciable amount has been found by Gabriel Bertrand in all parts of the hen's egg. This confirms the new belief that arsenic is in all living cells and probably serves a special function.

THE Craggs research prize for the best piece of original work done during the current year by present or past students of the London School of Tropical Medicine has been awarded to Dr. Aldo Castellani for his researches into the etiology of sleeping sickness. Dr. Travers, who also competed for the prize, has been awarded honorable mention for his paper on beriberi.

THE *Cincinnati Lancet-Clinic,* which has been under the editorial management of Dr. J. C. Culbertson for the past thirty years, with the issue of January 2, 1904, presented many changes. Dr. Culbertson, while retaining his financial interest in the journal, has retired from active work. Dr. Mark A. Brown has been appointed editor-in-chief, and Dr. Frank B. Cross business manager.

The brain of the Japanese grows more slowly during infancy and early youth than it does in the European. In the adult the brain weight compares favorably with that of the European of similar stature, and it may be shown to be superior in this respect to other races of the same general stature. These facts are of not a little significance in relation to the learning, industry, and aptitudes of this progressive race.

The International Congress on Tuberculosis, which was to have been held in Paris in October, 1904, has been definitely postponed until 1905, at a date which will be fixed later. The reason for this change is that the International Exhibition at St. Louis opens later than originally planned, and in connection with the Hygiene Section a tuberculosis congress is to be held, to which the leading workers on the subject in Europe will be especially invited.

A Paris correspondent to a London newspaper states that the sanitary conference has at present under its consideration a project for the creation of an international sanitary bureau for the collection of information respecting infectious diseases, such as plague, cholera, and yellow fever, and also for the harmonious working of those sanitary regulations in the East which have so greatly contributed within the last five years to the preservation of public health, as well as to the benefit of trade, by the suppression of the old quarantine system. The international sanitary bureau will have its headquarters in Paris, if successfully organized.—*Exchange.*

On December 14, 1903, Dr. Frank B. Mallory, assistant professor of pathology at Harvard Medical College, read a paper in that institution in which he reported the discovery of what he believes to be the germ of scarlet fever. He stated that in the skin of four patients affected by scarlet fever, and who died in the eruptive stage, he had found a series of bodies which closely resembled the various development stages of protozoön. Thus it appears that in its etiology the disease bears close relationship to malaria and other diseases caused by the protozoa. The bodies found in scarlet fever resemble the different stages of the sexual development of the malarial organisms, but do not live in the blood; instead they live in the epithelial cells of the skin and tongue, between these cells, and in the superficial lymph vessels and spaces of the corium. Like the malarial parasites, they multiply by forming segmenting bodies or rosets. These rosets are

about one-third larger than the malarial rosets, and the number of segments would seem to be about twice as many. Whether or not sexual development occurs as with the malarial microörganisms could not be determined.—*American Medicine.*

THE Chicago Department of Health in its latest bulletin thus comments on the value of antitoxin in diphtheria: "Since the introduction of antitoxin in the treatment and prevention of diphtheria its mortality-rate has been reduced by nearly one-half—that is, from an annual average of 6.25 deaths in every 10,000 of the population in the seven years 1889 to 1895, to the annual average of 3.24 in the seven years 1896 to 1902, of antitoxin treatment. But this is not enough. The seven years' experience clearly proves that no child should, that no child ever did, die of diphtheria when treated early enough with a sufficient quantity of good antitoxin. The preantitoxin mortality of diphtheria in Chicago was about 35 deaths in every 100 cases of the disease. In the many thousands of cases among the poor and destitute treated by the department inspectors under the most adverse conditions the rate for the whole number has been less than seven deaths in the 100 cases. And there are many physicians in Chicago and elsewhere who have records of hundreds of cases with a rate of less than two deaths per 100."

THE Executive Committee of the Baltimore Tuberculous Exposition, says the *Journal of the American Medical Association,* decided on January 25 as the date of opening of the display. Interest is manifested all over the United States, and many State boards and city health departments and hospitals and sanatoria have promised special exhibits, and there will be contributions from Germany, England, Holland, France, Belgium, Austria, and Russia. Applications are being received from manufacturers for space for apparatus and devices. The pathologic exhibit will be particularly fine. The exposition will last a week, and there will be daily lectures. A meeting of the executive and general committees was held December 9. It was announced that the scope of the exposition had far outgrown the original plans, and the interest was so wide-spread that it had now assumed national importance. A number of addresses were made and several subcommittees were appointed to take charge of the different branches of the work. A committee of citizens has been appointed, and $1500 will be raised for expenses. McCoy Hall has been offered by the Johns Hopkins University for the display.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Combined Use of Rubber and Woven Gloves in Surgical Operations.

A. Goepel (*British Medical Journal,* Dec. 12, 1903) states that the disadvantages of rubber gloves on account of their lacerability, and of woven gloves on account of their loose texture and consequent permeability, may be overcome by using both forms together, the latter drawn over the first. The thick, woven material affords a good hold of the surgical instruments, which are so apt to slip from the smooth rubber, and the permeability of the woven material is neutralized by the impenetrable nature of the rubber stuff, the possibility of the passage of germs from the skin of the operator's fingers being thus prevented. This combination, which overcomes a difficulty in aseptic technique, can, it is stated, be readily put into practice. The possible objection that the use of so thick a covering over the hands might hamper the surgeon in the performance of his operation is not justified by the results of practical experience. By this associated use of smooth and woven gloves, it is asserted, the advantages of simple gloves on the one hand and of the uncovered fingers on the other are combined, and the evils attending each are eliminated.

Two Cases of Severe X-ray Necrosis Presenting Some Unusual Features.

C. E. Skinner (*Journal of the American Medical Association,* Jan. 2, 1904) at the recent meeting of the American Roentgen Ray Society reported two cases of severe *x*-ray necrosis. In conclusion the essayist said the patients who tan well are not immune to burns. The physiologic action of the *x*-light is not confined to the stimulant or destructive influence on the tissues that already exist; it is capable of modifying more or less permanently the developmental functions that control cell growth. The cessation of the pain when the necrotic tissue was shed proves that this acts as an irritant by developing toxins that act on the peripheral nerve endings. The direct electrical current promulgated healing; therefore galvanism may replace skin-grafting. The late

appearance of new areas of necrosis may signify that the *x*-ray has a cumulative action. No two cases of *x*-ray burn will react uniformly to the same palliative agent. Patients should not be exposed to the *x*-ray with even a moderate degree of frequency through long periods of time, no matter how well they seem to bear them at first.

The Comparative Value of Dry and Moist Dressings.

Gontermann (*Archiv f. klin. Chir.*, No 24, 1903) comes to the following conclusions: (1) No continued bactericidal after-effects of antiseptics with which wounds have been washed can be shown; (2) the number of microörganisms in non-suppurating accidental wounds is increased to a greater degree by the use of impervious moist dressings than by dry dressings; (3) iodoform gauze is to be preferred in the dressing of accidental wounds because, besides its drainage properties and hemostasis, it has a decided inhibitive action on bacteria; (4) moist dressings readily induce eczema and folliculitis near the wound owing to maceration of the skin; (5) moist dressings form no certain preventive of suppurations in accidental wounds; (6) in suppurating wounds dry dressings bring about a more rapid disappearance of bacteria than moist ones; (7) many accidental wounds heal without the least clinical sign of inflammation, in spite of the presence of large numbers of bacteria.

External Urethrotomy.

C. H. Whiteford (*British Medical Journal*, Nov. 28, 1903) reports a case of external urethrotomy for stricture which was successfully treated by the continuous retention of a rubber catheter held in place by a perineal stop. The advantages of a rubber catheter securely fixed are: (1) The patient is free from pain, and can turn freely in bed without risk of the catheter slipping out. (2) The catheter can be retained continuously for several weeks, being removed every few days for cleansing—in fact, until the perineal wound is nearly closed. (3) Retention of the catheter being continuous instead of intermittent, as is the case with a metal instrument, the wound heals around the catheter, and consequently the lumen of the strictured urethra is larger and requires less subsequent dilatation. (4) Rigors are avoided, since the urine does not come in contact with the raw surface. (5) The catheter, stop, and clip are easily sterilized by boiling. (6) Tapes, plaster, rings, etc., are dispensed with.

Operative Treatment of Cancer of the Cervix Uteri.

W. F. B. Wakefield (*American Journal of Obstetrics,* October, 1903) makes the following statements with regard to operative procedure: (1) The desiderata in order of relative importance are removal of the uterus, the parametric connective tissue, the upper part of the vagina, and the regional lymphatics; no operation is worthy of consideration which does not at least accomplish the first three. (2) Vaginal hysterectomy has no place as a curative operation, the abdominal route, which includes the combined abdominal and vaginal, being the only method radical enough to give hope of a permanent cure. (3) That operation will outlive all others which permits the accomplishment of the previously mentioned desiderata with least injury to peritoneal structures, and at the same time affords the greatest protection to the uterus and important vessels.

Observations on the Effect of Catheter Drainage on the Function of the Kidneys in Interstitial Nephritis and Pyelonephritis.

A. T. Cabot (*Boston Medical and Surgical Journal,* Nov. 19, 1903) draws the following conclusions: (1) The relief of tension in kidneys that owing to long obstruction are exhibiting the clinical phenomena of interstitial nephritis usually brings about a return of normal function. From this it would appear that the renal condition is directly due to the obstruction and increased tension. (2) It seems probable that in cases of dilated ureters, permitting regurgitation of urine from the bladder back into the pelvis of the kidneys, a long drainage of the bladder will permit such a shrinkage of the ureters and ureteral orifices as to restore the normal valvular action of the ureters, and the retroflow of the urine will thus be stopped.

Simultaneous Occurrence of Appendicitis and Cholelithiasis.

Becker (*Deut. Zeitschrift für Chir.,* 66 Bd., H. 3-4) calls attention to the similarity of the clinical symptoms and the variable pathological conditions of the appendix, *e.g.* adhesions with the kidney, liver, gall-bladder, etc., making it difficult to diagnose appendicitis, whilst the operation would often bring forth cholelithiasis. He reports five cases in which both conditions were

present, and in four the diagnosis was made before the operation; the seat of pain was in the upper and lower abdominal quadrants, and radiated in the shoulder and lumbar regions. The diagnosis was facilitated by finding a tender point of resistance in the region of the gall-bladder and the iliac region. It is of importance to bear in mind that both conditions may coexist.

The Value of Ureteral Catheterization, Urine Separation, Hemocryoscopy, Urinoscopy, in Surgical Diseases of the Kidney.

W. E. Lower (*Medical News,* Dec. 19, 1903) says that before doing a cutting operation upon a kidney, especially a nephrectomy, the presence of a second functionating kidney should be established. The best and safest method for ascertaining the presence of a kidney is by the aid of cystoscopy and ureteral catheterization. The function of the kidney is best determined in order of importance: (*a*) By the freezing point of the urine; (*b*) by phloridzin glycosuria; (*c*) by the quantity of urine excreted; (*d*) by the freezing of the blood. The most reliable method of obtaining the separate urines is by the ureteral catheter.

MEDICINE.

An Antituberculous Bacillus.

S. J. Maher (*Medical Record,* Dec. 26, 1903) found some years ago that the last microörganism to remain alive in some samples of milk from a tuberculous cow was a sporogenic, liquefying, facultative, anaerobic bacillus. Later he learned that this bacillus could be injected into animals without harming them, and was closely akin to, if not identical with, bacillus mycoides (Conn). He reports that he injected pure live cultures of this bacillus into nearly one hundred patients suffering from pulmonary tuberculosis, and emphasizes the following points: (1) This bacillus can with safety be injected alive and in pure culture into the human system. (2) After its injection it remains alive in the human system often for weeks, and does no other harm than occasionally to cause slight suppuration. (3) After its injection it causes a variable febrile reaction which is never serious. (4) After its injection it has been found in the urine, blood, and sputa. (5) After its injection into the groins of persons suffer-

ing from tuberculosis there is often a subjective sense of local reaction at the site of the tuberculous lesion. (6) After its injection into the connective tissue about a tuberculous fistula *in ano* a marked improvement, even in the closing of the fistula, followed. (7) A cure of tuberculous otitis media in several instances followed a local injection of cultures. (8) After its application on gauze or cotton packing to sinuses leading from carious bone supposedly tuberculous, such sinuses have healed with surprising promptness. (9) Its hypodermic injection into patients suffering from tuberculosis of the lungs has been followed in many cases by relief of such symptoms as cough, fever, night sweating, wasting, anorexia, diarrhea, and hemorrhage. (10) Its instillation into the open tuberculous pleural cavity has caused the drying up of a purulent discharge that was resistant to ordinary methods of treatment. (11) Its hypodermic injection into consumptive patients has in several demonstrable cases been followed by the apparent cure of the disease. (12) As a valuable scavenger of the tuberculous human system, this bacillus claims the interest of the medical profession for the further reasons that it grows in acid or alkaline media, that its product is alkaline, that it grows in the presence or absence of air, that it feeds only on dead matter, that it gows more quickly and has more vitality than the ordinary pus-producing germs, and that its introduction into the human tissues is followed by a marked diminution of the number of ordinary pus-producing germs present in the body. (13) Some, as yet incomplete, investigations would seem to show that this bacillus is not without beneficial effect in other pathological conditions than tuberculosis.

A New Medium for the Demonstration of the Typhoid Bacillus.

Endo (*Centralblatt für Bakteriologic,* Bd. 35, No. 1, 1903) reports a new medium for the differential cultivation of the typhoid bacillus, consisting of:

Neutralized nutrient agar (3 per cent)	1000 Cc.
Lactose	10 Gm.
Alcoholic fuchsin	5 Cc.
Sodium sulphite, 10-per-cent solution	25 Cc.
Sodium hydrate, 10-per-cent solution	10 Cc.

The medium is poured into plates, and after cooling is colorless and transparent. The colon bacilli appear as red colonies, whilst the typhoid are easily demonstrated as round colorless colonies.

Can Rabies Virus be Separated by Filtration?

Celli and D. de Blassi (*Deutsche med. Wochenschrift*, No. 50) triturated the brain and cord of rabic animals with sand under a pressure of 300 atmospheres; the emulsion was then filtered through a Berkefeldt filter with the aid of hydraulic pressure. The filtrate was then examined microscopically in order to ascertain whether it was free from bacteria. Subdural injections were then made on rabbits and dogs. Many of the animals died without evidence of *causus fatalis*, whilst others succumbed to rabies. In the cornu ammonis of one dog and one rabbit treated with the filtrate Negri's bodies were found.

The Paternal Heredity of Syphilis.

R. Matzenaner (*Wien. klin. Woch.*, Nov. 7, 1903) draws the following conclusions in regard to the paternal heredity of syphilis: (1) The mother of a syphilitic child must be treated with mercury, even when she does not show any signs of syphilis; (2) the mother of a syphilitic child may nurse her child without fear of infecting herself; (3) syphilitic parents of a healthy child can infect it; (4) a syphilitic man should not marry for many years after all traces of his infection have disappeared, and after he has been treated several times with mercury.

Etiology of Tuberculosis.

Mittelensen (*Zeitschrift für Hygiene u. Infectionskrank.*, Bd. 144) examined for tuberculosis ninety-seven books which he procured from the public libraries. The *modus operandi* was by washing the pages, and then injecting the washings into guinea-pigs, with the result that over one-third of the animals died of acquired tuberculosis. The point of interest is that books which have been used under two years did not as a rule give rise to tuberculosis in contrast to those used three to six years. The remaining animals died of septicemia and malignant edema.

Gastrointestinal Catarrh of Infants.

Bloch (*Jahrbuch für Kinderheilkunde*, Bd. 58) made some examinations in diseases of the gastrointestinal tract in children, using intra-abdominal injections of formalin solution immediately after death, thus securing well fixed specimens of the gastric and

intestinal mucous membranes. His results agree with the findings of Huebner and Baginsky—that is, that the seat of the disease is usually in the lower part of the intestine, cæcum, and the colon. The glands and epithelial cells are but slightly affected; the mucous membrane of the stomach shows hemorrhagic erosions and interstitial change. The anatomical findings, like the clinical, pass from the acute into the chronic condition.

Localization of Influenza Bacilli in the Tonsil.

Ludwig (*Centralblatt für Bakteriologie,* No. 2, 1903) in addition to two cases previously reported by him brings forward another of the localization of the influenza bacillus in the tonsil. The case was that of a soldier, who died in three days after suffering from angina of the throat followed by paralysis of the left lower extremity and the fifth nerve. Bacteriological cultures prepared from the throat showed the presence of a large number of influenza bacilli, which had invaded the crypts and produced abscesses; in addition to these lesions a large abscess of the brain was found.

Observations on the Actions of the Roentgen Ray.

Schonberg (*Münchener med. Wochenschrift,* No. 43, 1903) subjected male rabbits and guinea-pigs to rays of great penetrating action, and found that they became sterile although their physical condition remained normal. Their sexual appetite and power of copulation was still retained. The *x*-rayed males were placed with normal females, but no conception took place. An exposure of 195 minutes did not produce an absolute azoöspermia, but exposures of 377 minutes and more sufficed to produce this result.

Lesions of the Red Bone-marrow in Typhoid.

Fraenkel (*Grenzgebieten der Med.,* Bd. 11, H. 1) found post mortem in thirteen cases of typhoid that each individual from the beginning of the disease until convalescence evidenced multiple lesions of the bone-marrow which either resolved or continued so as to become clinically noticeable. These foci are usually found in the marrow of the vertebræ or ribs; a fibrinous exudate is constantly observed, though never any pus formation. Fraenkel suggests as a name for this process osteomyelitis typhosa.

THERAPEUTICS.

The Treatment of Hip-joint Disease.

R. T. Taylor (*Trans. Am. Orthop. Association,* vol. xv, 1903) considers that in view of the power which improved methods of skiagraphy afford of locating small tubercular lesions in bone, and the means that we have at our disposal of disinfecting tubercular foci, such as carbolic acid and alcohol formalin, etc., and the whole question of the treatment of joint tuberculosis, should be reconsidered. Of late the tendency has been to avoid direct attack on the disease and rely on rest and fixation with attention to the general health, and to reserve operation for the evacuation of abscess and the correction of deformity in cases where the disease is quiescent. This has been probably a swing of the pendulum away from the older tendency to perform excisions in all cases, with the idea of eradicating the disease, but unfortunately leaving great shortening. The paper is largely directed to the treatment of hip-joint disease, and Taylor describes several cases where he has localized lesions in the head of the femur by means of skiagrams, opened the joint by an anterior incision, scraped out the focus, and disinfected the wound with pure phenol and alcohol, or, as he prefers, 2½-per-cent solution of formalin, and treated the case after by means of rest and fixation and attention to the general health. This he terms the rational or combined method of treatment, and claims that it shortens the treatment of cases and lessens the chance of recurrence, and is not open to the objection of causing shortening as excisions do.

In mild cases where no focus can be detected, he relies on rest and fixation alone.

Treatment of Acute Eczema.

Brodier (*Archiv. Gén. de Méd.,* No. 22, 1903) recommends internal treatment in gouty rheumatic cases—for example, quinine, colchicum, digitalis, ergot, and belladonna. Brocq uses pills containing bromohydrate or quinine 0.05, extract of colchicum 0.01, powdered digitalis 0.02 gramme, two or three daily. Belladonna is indicated when there is much exudation. Pills containing bromohydrate of quinine 0.05, extract of belladonna 0.001, extract of gentian 0.05 gramme, may be given four or eight times a day. In itching chloral hydrate should be avoided. The author advises valerian as a sedative. In young children potas-

sium bromide is good. Arsenic and sulphur are to be avoided in all acute eczemas. A milk diet for several days is advisable. Local treatment should begin with starch cataplasms applied on muslin, and removed every two or three hours if possible. Chamomile lotion is also of use. In old arthritic patients powders are better tolerated than cataplasms; the best are starch and lycopodium, which may be mixed with zinc oxide, bismuth, or talc. Camphor is a useful addition. If improvement is slow, ointments may be tried and covered with powder. Glycerole of starch, cold cream, or a mixture of zinc oxide, starch, lanolin, and vaselin, are useful. Picric acid 1 in 200 is good, in cases of acute eczema without much inflammation, to relieve itching.

Observations on the Use of Sahli Test Meal.

A. A. Aronson (*New York Medical Journal,* Dec. 5, 1903) describes the method of using this meal and discusses its value as compared to the Ewald-Boas test meals. He concludes:

1. When made according to Sahli's description, the soup is not homogeneous.
2. The application of the test meal to general practice is entirely impractical.
3. The time consumed in determining results is incommensurable with the advantages derived from its use.
4. The lack of agreement in every case between the clinical diagnosis and the diagnosis according to the Sahli method.
5. The possible diagnosis by means of the test meal of functional disturbance.
6. The diagnosis between the degree of the acidity and the amount of the secretion.

Action of Radium on the Skin.

A. Haskin (*British Medical Journal,* Dec. 12, 1903) mentions the discovery of radium and polonium from the ore of uranium or pitchblende by M. Curie. The rays from these bodies have the same power of penetration as the *x*-rays, and a similar action on a photographic plate and fluorescent screen. The physiological action of these rays is to exert an inhibitory action on the growth of tissues. From radium are obtained two kinds of rays, one with great penetrating power, another with slight power of penetration but great power of being absorbed. The rays with feeble penetration have a strong bactericidal action, while the other kind

have no effect on bacteria. Curie subjected his arm to the action of the rays for ten hours, and in fifty-two days an ulcer developed. From handling radium he developed a dermatitis of the fingers, accompanied by pain and scaling, which lasted over two months. The histological action of these rays was studied on the skin of a pig; 0.13 gramme of radium enclosed in a thin aluminum capsule was placed in contact with the skin for two hours. After thirty-eight days the skin was examined. The chief changes were in the blood-vessels, the walls of which were degenerated. The epithelium was also affected.

The Treatment of Acute Nephritis with Cold.

Stembo (*Therapie der Gegenwart,* November, 1903) gained good results in the treatment of acute scarlatinal nephritis with ice. As soon as the nephritis evidenced itself he applied a biscuit-shaped ice-bag over the region of the kidney and fastened it with a bandage. If possible the patient should be laid on the side; if he assumes the dorsal position he must be supported with pillows in order to prevent pressure. The application should be made for two to three hours and then removed for one hour, to be again reapplied; if the cold proves irritating a layer of flannel may be placed between the skin and the ice-bag. The author continues the cold until only traces of albumin are present in the urine, its action being to reduce arterial tension and relieve congestion.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
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Operative Treatment of Myoma During Pregnancy.

O. Frank (*British Gynecological Journal,* November, 1903) reports seven personal observations, and concludes that operative interference is indicated: (1) During pregnancy, if the tumor is growing rapidly; if the circulation and breathing are disturbed; if there is reason to suppose that myoma may lead to a premature interruption of the pregnancy; if symptoms of peritonitis or incarceration appear due to the tumor; or if the myoma is a polypous one, or proceeds from the vaginal portion of the uterus (danger of disturbed nutrition). (2) During labor, myomata

of the pars intermedia should be enucleated if there is no chance of overcoming the obstruction with the prospect of a living child; perforation has to be considered when the after-coming head cannot pass the obstacle, or when the child is dead, or the mother has fever; moreover, when the tumor arises from the supravaginal portion abdominal enucleation and leaving the expulsion of the child to nature have to be thought of, and finally Cæsarian section and castration with or without the removal of the uterus.

Prolapse of Cystic Ureter Through Female Bladder.

D. Hibler (*British Medical Journal,* Nov. 7, 1903) reports this remarkable condition in an infant six weeks old. The mother noticed something projecting at the vulva; it was clearly pedunculated, and came out of the ureter. It was quite as big as a hen's egg, cystic, and filled with a clear fluid. The cyst was emptied, but it showed no tendency to reduce itself spontaneously and soon became sloughy. On that account it was excised, but the child died with uremic symptoms. The left kidney had two ureters; one had become closed at its vesical end and greatly dilated, forming a cyst. The bladder became distended, cystitis set in, the right and left ureters then underwent dilatation, and the kidneys were affected, the right being pyonephrotic. The vesical walls were very thick. The original cause of the obstruction to the supernumerary ureter appeared to be its position in relation to the normal ducts as they entered the bladder.

Ovarian Transplantation.

F. H. Martin (*Chicago Medical Recorder,* Oct. 15, 1903) concludes from experiment and literary research that homoplastic or heteroplastic ovarian transplantation is not more dangerous, if aseptically performed, than any other small plastic operation on the appendages; that homotransplantation, or heterotransplantation, will prevent the atrophy of the genitalia which usually follows castration; that the same effect may follow transplantation from one species to another. Also that menstruation will, in women and monkeys, continue after homotransplantation, and that conception has followed homotransplantation in women, and both homo- and heterotransplantation in animals. Furthermore, that ovaries transplanted to situations other than normal will maintain their vitality and functionate, and will prevent the ordinary sequelæ of castration.

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ORIGINAL CONTRIBUTIONS.

THE TREATMENT OF TYPHOID FEVER IN CHILDREN—REPORT OF SOME CASES OF INTEREST DURING THE TYPHOID EPIDEMIC AT BUTLER, PA.

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The recent epidemic of typhoid fever in our city has brought to light many interesting features in the treatment and care of that disease, especially in children.

After a rigid investigation the origin of the epidemic was traced to polluted water taken from the Conoquenessing Creek. It was a question among the physicians as to whether the disease was of the true typhoid type.

The prodromal stage of typhoid fever is about ten days; but the majority of persons afflicted were taken sick suddenly, with a feeling of general malaise and exhaustion, lasting from one to three days before taking to their beds.

My personal observation of a number of cases brought to mind the fact that while the early symptoms indicated a typhoid fever, those of the later stages were found wanting. There were a number of cases that exhibited a temperature of from 99.8° to 102° F. for from ten days to two weeks, when the fever would leave and the patient be about as well as usual in a week.

Typhoid fever is an acute infectious disease, self-limited, and cannot be aborted, and without any complications runs its course in from twenty-one to twenty-eight days.

The general chain of symptoms presented in cases that came under my care, and those I saw with my brother physicians, were as follows: Patient sick about two days, temperature, whether morning or evening, ranging from 101° to 103° F., furred tongue;

slight tenderness over abdomen; no marked distention or gurgling in right iliac region; enlargement of spleen absent quite often. In no case that I saw did I find any rose spots. But suffice to say, all those afflicted were in a typhoid state, if it was not a typical typhoid fever. Reinfection was not an uncommon occurrence.

The important point I wish to bring out relates to a symptom that I found in a number of cases, namely, the persistent elevation of temperature after the disease had apparently run its course, followed by a normal temperature in the evening, for four to six days.

Case 1.—Margaret B——, aged 5½ years, was taken ill November 13, 1903. Evening temperature 101° F.; no abdominal symptoms; temperature ran along for a period of seventeen days ranging from 101° in the morning to 102.8° in the evening. Her illness was diagnosed by Dr. J. V. C. as typhoid fever. She was put on an antiseptic treatment and liquid diet. Treatment consisted of calomel 1/10 grain, two or three times a day as indicated.

℞ Acid. mur. dil.....gtts. xxiv.
Sod. sulphocarb.....gr. xij.
Elix. lactopeptini .....ʒj.
Aq. dest.....q. s. ad ʒiij.

M. Sig.: Teaspoonful every three hours.

On the seventeenth day her temperature became normal. After a normal evening temperature for four days she was allowed to sit in a chair for a quarter of an hour in the morning and afternoon. On the seventh day, about 10 A.M., her temperature went up to 99.8°, and by 1.30 P.M. had reached 101.4°. She did not complain in any way, and did not approve of going back to bed. The treatment was kept up, and she was given baths of alcohol and water; but after four days the temperature still kept up, but never went above 102° F.

Not being satisfied with the treatment, as it had no effect upon the temperature, I concluded to put her on acetozone, a mixture of which is prepared as follows:

Acetozone .....gr. xxx.
Oil gaulth.....gtts. iij.
Saccharin .....gr. ij.
Aq. destil.....Oiv.

M. Sig.: After standing for three hours give 2 ounces four or six times in twelve hours.

After two days of this treatment temperature became normal, and remained so. Patient finished the mixture, and was kept in

bed for ten days, when she was allowed to don her clothing, and has been about ever since.

Case 2.—Cleo R——, aged five years, resides twelve miles north of Butler. She visited Butler, returning home, and after a period of eighteen days was taken suddenly sick. Evening temperature 101° F.; tongue coated; abdomen slightly distended, no tenderness. Diagnosis, typhoid.

However, patient was put upon acetozone treatment, and after a period of fourteen days her temperature became normal, and never had any tendency to rise.

Another point which comes to my mind just here is that in children treated with acetozone the temperature, after reaching normal, would have a tendency to become subnormal, ranging from 97° to 98° F., but there were no symptoms of exhaustion, nor did the patients require stimulation, showing conclusively that acetozone is a powerful germicide and its use constitutes the treatment *par excellence* in typhoid fever.

Case 3.—Annie W——, aged thirteen years. Symptoms as in Cases 1 and 2. After having a temperature ranging from 101° to 104° F., morning and evening, for three weeks, patient had no other symptoms than a temperature of 99.8° to 102.6°, which continued for one week. At the end of that time she was put upon acetozone and took a quart of the mixture in eighteen hours. The temperature became normal, and remains so at this writing.

There are two slight objections to the acetozone treatment, especially in children, which I will point out, and at the same time suggest a way to overcome them. First, acetozone has a slight tendency to induce constipation, which is overcome very nicely in children with calomel, 1/10 grain every hour for five or six doses, followed with 1 to 2 ounces of effervescent solution magnesium citrate. Secondly, children do not like the slightly disagreeable taste of the acetozone mixture. I have tried several methods of preparing it, among them being the following formula, which I have used and find very satisfactory:

Acetozone (P., D. & Co.)	gr. xv.
Ol. gaulth	gtts. ij.
Ol. menth. pip	gtts. iij.
Saccharin	gr. ij.
Aq. destil	q. s. ad Oij.

M. Sig.: Allow mixture to stand three hours. ℥j in one ounce of milk every two or three hours.

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THE GROWING IMPORTANCE OF THE POSSIBILITY OF THE DISLOCATION OF THE HUMAN VISCERA.

BY T. M. HAMMER, M.D., PHILADELPHIA, PA.

The profession is learning to place more and more importance on the diagnosis of dislocations of the viscera. Sixty years ago the subject was first considered, but it is really only in the past eight years that it has been scientifically studied and presented.

Rossbach ten years ago contributed a most valuable paper, epoch-making in its character, on the movements of the stomach, pylorus, and duodenum; they are interesting in this connection as showing us an important and always possible factor for the dislocation of other organs naturally more stable. Rossbach's researches were performed on dogs, and consisted in making the animal as quiet as possible and insensible to pain by the use of morphine or curare. Then the stomach was exposed and preserved in as normal a state as possible by the use of warm, wet cloths, or by filling the abdomen with normal salt solution, covering the opening with a warm glass plate, through which the various phenomena were observed.

Observations were then made upon the movements of the stomach, duodenum, and pylorus under the different conditions of the presence and absence of food and influenced by the irritation of the vagus or ingestion of hot or cold water. As a result Rossbach came to the conclusion that in the case of the stomach, when full of food, the peristaltic movements were at first weak, and then becoming stronger lasted four to eight hours; these movements occurred only in that half of the stomach nearest the pylorus, while the other half was entirely free from movements during the entire time of digestion and compressed only moderately the gastric contents. These movements always began at the middle region of the viscus, the first appearance being as if a cord were tied about the stomach, and then waves passed toward the pylorus; each wave taking about twenty seconds. At the acme of the digestive period this wave-like motion was deep enough to obliterate the lumen of the stomach, especially as the wave approached the pylorus. Cold or warm beverages in moderate amounts increased this peristaltic movement, but large amounts of cold water stopped them entirely for a long time, making the organ icy cold; also morphine and chloroform narcosis retarded them greatly, although they did not entirely cease.

The cutting of the spinal cord in the neighborhood of the

second cervical vertebra or of the esophageal vagus had the same result; after this section the tension of the stomach upon its contents was lost, and consequently that organ enlarged. After the section of the vagus the serous layer of the stomach was irritated by the faradic current; a powerful contraction was produced at the seat of irritation, but it remained localized. The empty stomachs of dogs which had been deprived of food for twenty-four to seventy-two hours were small, relaxed, and without movements, or at the most exhibited only flaccid contractions. When the stomach was full the pylorus was closed during the entire time of digestion, and for the first four to eight hours it did not allow nourishment to pass through it; toward the end of the period the finger could be pushed through it from the duodenum, but not until this process had so far advanced. The stomach was emptied suddenly in four or five quick movements, the result of a peristaltic movement which was no stronger than the ones preceding it.

Rossbach came to the conclusion that the emptying of the stomach was accomplished not only by gastric contraction, but also that the pylorus has the independent property of opening and closing. He was unable to study satisfactorily the pylorus when the stomach was empty, excepting that during a period of starvation the pylorus remained tightly closed and resisted the pressure of the finger from the intestine, but not as firmly as during digestion. But section of the vagus or decided curarizing of the animal caused the pylorus to open even when the stomach was full; while irritation of the gastric mucous membrane of the pylorus diminishes the gastric peristalsis. This property prevents the stomach from sending too much of its contents into the duodenum at once.

While the process of digestion was going on the duodenum had no movements of its own; even by irritation or mutilation nothing could be produced; and yet the production of intestinal juices and the pancreatic and biliary juices continued. When the pylorus opened, however, peristaltic movements began in the duodenum, increasing in strength until the stomach was emptied. From this data it is evident that the nervous connection between the innervation of the stomach, pylorus, and duodenum must be perfect. Rossbach formulates the physiological law that "irritation of the gastric mucous membrane acts reflexly, producing a stronger innervation of the pyloric muscle and an inhibition of the duodenal movements, but eventually a relaxation of the pyloric muscle and an irritation of the motor nerves of the duodenal mus-

cle." Naturally the resting of the duodenum during gastric digestion is to prevent the removal of the intestinal secretions poured out in the bowel, so that they will remain in the region of the stomach to neutralize and act upon the acid contents of the stomach as they finally appear through the pylorus.

The importance of this data of Rossbach is the possibility of its being a factor in the dislocation of other adjacent organs such as the heart and kidney. Here we have regularly quite powerful movements which are capable of producing considerable changes if not properly regulated and controlled by nature, especially if any congenital predisposition exists.

Taking up the question of the movement of the heart, we know now that slight movability of this organ is of common occurrence, while great movability is rare; yet this abnormally movable heart is found in strong and healthy persons and must be considered a congenital trouble. Still it is also found in connection with heart disease as well as in diseases of other organs without there being any discoverable genetic relation between these pathological processes and the abnormal mobility. This condition of abnormal movability can be brought about by emaciation, whether this be due to disease or to treatment for obesity. I will go into this more fully a little later. The diagnosis can be made with certainty by the shifting position of the apex beat and of the area of cardiac percussion dulness seen as the result of the change in position of the patient. The subjective symptoms may be totally lacking, but in the majority of cases of abnormal mobility of the heart occasional palpitation, a sense of weakness and dizziness on exertion, and an inability to lie on one side, usually the left, on account of a sense of oppression, can be noted.

Movability of the heart due to the treatment for obesity or from extreme emaciation is an important consideration in these days of "obesity" cures. I had the opportunity to see, although it was not my case, a man who had lost fifty pounds as the result of treatment, in whom all of the organs were normal. When the patient stood erect or lay upon his back, the cardiac dulness was in the usual position and outline; but when he turned on his left side, the apex beat was removed to the middle axillary line and the cardiac dulness left the sternum, only meeting it near the insertion of the third rib. Placing the man on his right side, the absolute cardiac dulness disappeared entirely and a relative dulness appeared on each side of the sternum from the fifth rib to the sixth intercostal space, the impulse being felt close to

the sternum at this point. The range of variation of the apex beat varied fourteen centimeters. Other cases of this sort have been reported from time to time with the occurrence of symptoms of weakness, vertigo, and inability to lie on the side, for when this was attempted pain, oppression, and a sense of anxiety developed, while the pulse-rate ran up in sympathy sometimes as high as sixty beats.

To the practical physician the question arises as to whether the loss of fat resulting from the treatment was the cause of this abnormal mobility; the inspection of healthy men shows that only a slight displacement of the apex beat or of cardiac dulness occurs on change of position, while the examination of consumptives who are emaciated often shows that there is considerable displacement of the apex beat according to the position assumed by the patient. Again, in progressive muscular atrophy with loss of thirty to forty pounds the same phenomena have been observed.

There is not the slightest doubt that the reduction of weight is the cause of the abnormal movability of the heart in these cases.

Still the possibility of congenital trouble must be borne in mind in these cases; for example, Huchard has reported just such a case where the trouble was due to aberrant tendons of the heart. The case is as follows; it shows that in medicine we must always be on the lookout for the exception: A woman fifty years old in the last stages of chronic nephritis presented a heart-beat that varied considerably in location, but at the autopsy, in addition to the lesions of chronic interstitial nephritis, hypertrophy and dilatation, and mitral incompetency, there was found stretching across the left ventricle a tendinous cord about two inches long congenital in character.

Rayer, back in 1841 at the Hôpital de la Charité in Paris, was the first to show the frequency of movable kidney, together with its pathological anatomy and its clinical manifestations. This is a lesion that rarely gives rise to grave symptoms, yet when they are prominent they not only annoy but are apt to alarm the patient. We are getting more expert in recognizing floating kidney of late years, and from being regarded merely as a medical curiosity, it is known not to be so very uncommon. The German writers with customary enthusiasm are finding this condition in one out of every five or six women (*vide* Kuttner and Lindner), but this is undoubtedly riding a new and important clinical fact to death.

The causation of movable kidney is still rather obscure; one of the most plausible theories being the absorption of the capsule or mass of fat in which the organ is embedded. This capsule, placed

behind the peritoneum, lies upon the quadratus lumborum muscle and the lower two costal diaphragmatic attachments. The tension of the peritoneum as it passes over it and is attached to the anterior layer of its capsule keeps it in place. When there is present such a condition as produces general wasting, and the fat of the capsule becomes absorbed to some extent, the renal attachments become loosened, and that organ moves about in the subserous tissue and tends to sink down by its own weight.

The principal objection to this theory is the clinical fact that movable kidney is often found in cases where there is no emaciation. The right kidney lying under the liver is more liable than the left on account of the pressure of this organ from above, while the pressure of the corset and the relaxation of the abdominal walls from child-bearing may be considered in selected cases.

The great majority of cases of movable kidney probably have a relaxed condition of peritoneal attachment due to congenital causes, the active cause being muscular effort, such as vomiting, etc. In a large number of cases no symptoms are observed at all, the tumor being discovered accidentally. Its nature is made out by the physical signs and the history of the case. The tumor generally presents the outlines of the kidney; the hilum may be felt, while sensibility to pressure is slight or wanting. Generally the case is without pain, though there may be a dragging, dull pain, sometimes as severe as renal colic. Manipulation may also produce great discomfort. An almost pathognomonic symptom is the power of moving the tumor upward, making it disappear in the hollow of the loin.

So-called gastric crises may be really due to the dragging of the kidney upon the duodenum, causing it to kink, occluding it and producing these symptoms. Neuralgic pains shooting down the thigh or along the groin may appear. When the reducibility of the kidney is not complete, then the diagnosis may be difficult and the tumor may be confused with hepatic tumor.

Movable kidney has been reported in children under ten years of age; it is certainly far more common in women than in men, the proportion being ninety-four of the former out of one hundred cases reported consecutively by Kuttner. The greater number of these patients were in the decade twenty to thirty, but this only is the period in which the condition was discovered; it is not necessarily the time of its origin.

Dyspepsia is often a common symptom in these cases, but the condition is rarely severe; dilatation of the stomach may accompany the lesion, due to the pressure of the kidney on the duodenal

branches of the vagus, thereby causing retention of the gastric contents. It is rather doubtful, however, whether there is direct connection between the gastric symptoms and the abnormal renal situation. Probably the peristaltic action of the stomach is too powerful to be resisted successfully by such influence. It is quite remarkable how few symptoms exist which relate to the urinary organs. Slight colicky pain on urination, frequent desire to make water, and slight increase in the amount of urine are about all noted. These are transient and unimportant signs. Uterine symptoms, such as menorrhagia, amenorrhea, dysmenorrhea, may be associated, but generally their coexistence is only accidentally coincident.

Accurate diagnosis is important in all cases of obscure abdominal manifestations, especially if associated with nervous or hysterical signs. It will no longer suffice to allow these cases to drift along without thorough examination; the detection of this lesion in an obscure case is always a signal for congratulation, for while it is difficult to cure, it is generally free from danger. In all cases of obscure abdominal pains, insist on thorough examinations for your patient's sake and also for your own reputation. Many patients and doctors are content to drift along with childish excuses and placebos, but it is dangerous practice.

Physical examination carefully performed rarely fails to reveal the presence or absence of an existing movable kidney; yet at times detection may be obscured, so a positive result is far more conclusive than a negative. Place the patient if possible in bed, or if not loosen the clothes so that the abdomen can be exposed; in women remove the corsets. Flex the patient's thighs upon the pelvis to relax the abdominal walls. Stand on the right side to look for the right kidney, and place the left hand under the lumbar region, as the patient lies in the dorsal position, just below the twelfth rib, and with the tips of the fingers of the right hand make gentle pressure on the abdomen in the upper and middle hypochondriac region. Should the kidney be displaced to any degree we should feel a flat, smooth, roundish body which can be pushed in various directions, sometimes as far as the crest of the ilium; direct the patient to take full inspirations if the abdominal tension remains sufficient to interfere with the examination. In some cases not only can the hilum be felt, but even the pulsation of the renal artery.

When the examination is negative, press with the fingers of the left hand upon the lumbar region just below the twelfth rib, and in this way shell out the kidney. Sometimes making the patient

to sit up, either on end or in the knee and elbow position, will help in the diagnosis.

A common history of the discovery of such a case is the following taken from my case-book: A maiden lady thirty years of age was treated by me for dysmenorrhea. I ordered the use of the faradic current, and on its application my electrician detected a flat, even swelling the size and shape of a kidney in the left hypochondrium midway between the costal cartilages and the crest of the ilium; it was movable and would slip back into its normal site. No symptoms were seen, and none have ever developed.

Should you suspect a movable right kidney, there is no organ in the right hypochondrium which could be easily mistaken for such a tumor; tumors of the omentum, mesentery, a distended gall-bladder, hepatic cyst, might at first suggest a movable kidney, but it should not be for long. Wherever the abdominal walls are thickened by fat, it may be impossible to distinguish between floating kidney and a movable cyst. Such a case is the following: A married woman had her attention drawn to her increasing size, which she attributed to pregnancy, but a tumor was detected on her right side, supposed to be an ovarian cyst. The patient was very stout, and the tumor was smooth and movable. However, its lower border was too high for an ovarian cyst, for it was above a line drawn from the superior process of the ilium to the navel. It proved later to be a floating kidney, for it did not increase in size. Again a small and movable spleen may be mistaken for a floating kidney; and pregnancy itself has been confused with this renal condition.

As to the effect of a movable kidney upon the expectation of life, we can state with some degree of positiveness that the condition rarely endangers life; many a person lives and dies and never knows the existence of such a lesion. The most serious point is the danger of the error of diagnosis to which these cases are exposed.

Restore if possible the kidney to its normal site, but it is hard to keep it there; a simple bandage around the lower part of the abdomen affords relief in some cases, especially in those with pendulous bellies; in other cases a bandage for the upper part, with a pad corresponding to the hypochondrium and pressing below the kidney after reduction. It is hard to apply such a bandage, and hard to keep it in place.

Extirpation of the kidney has been tried, but it has been abandoned fortunately. Nephrorrhaphy, the stitching of the kidney to the abdominal wall, has been tried, but with no brilliant results.

External applications for the dragging and shooting pains are excellent, such as chloroform liniment, wet compresses, and hot bags and poultices. Rest in bed may be necessary, and morphine in urgent cases. The diet should be carefully watched, and the condition of the bowels. Treat the general symptoms as they arise; tonics for nervous and anemic cases, especially some good form of iron. Moral effect of the physician has great weight; do not allow the patient to grow morbid; in some persons it may be well not to inform them of the state of affairs. Travel and change of scene are often of great influence.

I will not dwell on the dislocation of the stomach and intestines, but again here is a class of obscure cases which years ago bothered the practitioner greatly. No doubt we can all now look back at some cases in the dreamy past and wonder if these states were not the true solution of their condition.

TUBERCULOSIS CUTIS.

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Cutaneous tuberculosis is manifest in a great variety of lesions, directly or indirectly attributable to the bacilli of tubercle. Those produced by the direct presence of the bacilli are characterized by a granulomatous formation with giant cells and bacilli in very limited numbers, as lupus vulgaris, lupus verrucosus, scrofuloderma, miliary tuberculosis cutis, and erythema induratum. Those produced indirectly by tubercle have been grouped under the term "tuberculides," are inflammatory in character, not granulomatous, do not contain bacilli, and the lesions are often very numerous, bilateral, in many cases symmetrical in their distribution, and not so obstinate to treatment. They are probably due to the toxin of tubercle. Under this class may be considered lichen scrofulosus, acne scrofulosa, acne agminata (acnitis and folliculitis), morbilliform and scarlatiniform erythema (from acute tuberculosis and tuberculin injections), and suppurative folliculitis of the mons veneris; those probably not due to toxin but predisposed by favorable constitution, as eczema scrofulosum, pityriasis of Hebra, dyschromia (like the pigmented syphilide), and lupus erythematosus. Cutaneous tuberculosis is caused (1) by direct inoculation from without, as in infected traumata, tooth wounds, circumcision, vaccination, butcher's hands, dissectors, surgical op-

erators, contact of sputum, kissing, etc.; (2) by indirect inoculation by continuity from deep foci; (3) by way of lymphatics or veins; (4) of hematic origin; (5) by infection *in utero*.

The disease is of frequent occurrence and is attended by the most destructive and disfiguring consequences. It usually occurs early in life, and is much more frequent in females than males.

For the sake of convenience we shall consider the subject under the several forms as enumerated above. Lupus vulgaris may involve the skin or mucous membranes and is productive of grave local injury, and may be the origin of general tuberculosis. The symptoms are quite varied and numerous, and have given rise to many names depending upon the local features. While a great variety of lesions may appear, the common types are the macule, papule, and tubercle or nodule. Their size may vary from a mustard seed to a cherry or larger, and they vary in color from a yellow or brown to a dull red or purple. They are soft and boggy in appearance and elastic to the touch, and contain a jelly-like substance. Many have a scaly appearance in the later stages. The surrounding tissues are infiltrated and thickened, and lymphangitis and lymphadenitis may be present. Telangiectases are sometimes observed. There may be one or many lesions, and the area involved may be small or extensive. When due to direct infection from without, the initial lesion is usually a minute macule of a fawn or brown color, which develops to a papule and then a tubercle. Involution may occur by resorption, fibroid metamorphosis, and by ulceration. Ulceration may begin in the skin by breaking down over the lupus tissue or by the more or less rapid disintegration of the deeper tissues into cheesy detritus. Crusts form from the débris and desiccated secretions, varying in color and thickness. The ulcers have well defined margins and may be superficial or deep, with reddish or purplish, indolently granulating, furrowed, and hemorrhagic floors from which exuberant granulations may spring, producing a fungoid or hypertrophic appearance.

The ulcers may advance or the disease may spread by the formation of new lesions, separated from the old by sound tissues. Lupus vulgaris is essentially chronic, requiring years for its evolution. It may attack any region, but is most common on the face. A form known as verruca necrogenica is a vesicopustular lesion of a wart-like appearance, usually on the hands of those who come in contact with the dead. Another verrucous variety is found on other parts of the body—a papillomatous excrescence or soft exuberant wart, made up of papillæ closely packed and separated

by deep furrows, discharging a mucopurulent fluid and frequently covered by a dark crust. A fibromatous variety, which is a papillomatous growth having undergone sclerotic changes, is most commonly found about the mucous outlets.

Sometimes the lymph channels become occluded by a tuberculous infarction, producing what is known as elephantiasis tuberculosis cutis.

The term tuberculosis cutis orificialis is applied to indolent oval or circular, shallow, discrete, reddish-yellow, granulating ulcers, often covered with thin crusts, occurring about the mucous orifices of patients afflicted with pulmonary tuberculosis.

An acute tuberculosis of the skin occurring in children has been described. It is characterized by macular, papular, vesicular, pustular, bullous, and ulcerating lesions in scrofulous subjects.

Scrofuloderma is a term used to designate a tuberculous affection of the skin and subcutaneous tissues, originating in the lymph glands or periglandular tissues, which after a process of infiltration and softening terminates in ulceration.

Suppurative tubercular lymphangiectasis, or the typical scrofulous ulcer, is now recognized as of tuberculous origin. It will be impossible to even refer to many of the rarer forms of tuberculosis of the skin in this limited article, and I shall proceed to a brief discussion of the diagnosis and treatment of some of the more common varieties.

The diagnosis in the typical forms of tuberculosis cutis is usually easy. Due importance must be attached to age, sex, chronicity; the presence of a soft, elastic nodule. embedded or elevated, or one or more inflammatory infiltrations, slightly scaly, with defined rounded edges; atrophic or ulcerative cicatrices, scanty crusts, and inoffensive secretion, and preserving a yellow color under pressure of the lens. Gummatous syphilides are usually acquired in adult life. They are characterized by rapid, spontaneous, deeply seated ulceration, sharp edges, rapid course, abundant, greenish crusting, offensive secretions, and corroborative evidence. Scrofuloderma presents caseous glands or scars, chronic dermatitis, spreading from the softened glands, ulceration, sinuses, brownish tubercle. The rodent nodule has a shining waxy appearance and develops at a later period of life. The epithelioma also begins later in life and has indurated, everted edges, and offensive, bloody discharge, and is usually attended with much pain.

The only internal treatment for cutaneous tuberculosis, aside from general, reconstructive, and tonic measures, of any value is

thyroid extract, which is an important aid to local treatment, whether surgical or otherwise. The local treatment may be considered under the divisions of surgical, phototherapy, electrical, and medical.

The surgical methods are excision, erasion, scarification, and galvanocautery.

Under phototherapy we may consider exposure to the various sources of light. The Finsen method consists of using sunlight or electric light concentrated by means of an apparatus which cuts off the heat rays and admits only the actinic rays—blue-violet or ultraviolet. The tissues are exposed under pressure. Perhaps the most successful and universally accepted treatment is the *x*-ray treatment, which consists in exposing the lesion to the *x*-ray at intervals of a day or two until reaction occurs, and then repeating after the irritation has subsided until complete healing has resulted. A tube of low vacuum should be placed quite close to the lesion, the other parts being protected by metallic covering, and the exposures should depend upon the degree of exciting energy, the distance from the tube, the degree of exhaustion of the tube, and the resistance of the patient. These variations can be acquired only by practice and experience. All the above conditions are undergoing constant changes, and careful vigilance is necessary to secure none but the desired results. Many devices have been constructed for limiting the ray to the part to be treated, but most of them are cumbersome and impractical. A simple device which I have designed for this purpose consists of a screen composed of two sheets of heavy card with a layer of lead-foil between them, in the center of which is a circular opening six inches in diameter, so arranged that disks with tubes or openings of different sizes can be inserted and held rigidly in position. By this means the ray can be limited to any desired area without any possible risk of injury to the other parts, and the patient is not annoyed by the induction current so objectionable in the use of lead-foil applied to the patient; and besides, more or less cataphoretic effect is produced by the older method of protection which, in case of lead, is not desirable.

The University of Vermont, at Burlington, whose medical building was recently destroyed by fire, is prepared to spend $100,000 to replace the structure in a style comparing well with the other handsome buildings of the institution. Plans and specifications will be received from architects.—*Exchange.*

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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EDITORIAL ARTICLES.

CYTODIAGNOSIS.

The unsatisfactory results accruing from the puncture of Quincke, as a curative or remedial procedure, are to some extent being atoned for in the increasing value of cytodiagnosis, as applied to the cerebrospinal fluid. A recent article by Dana, of New York, directs attention to the important indications afforded by the routine examination of this fluid. These indications stand apart from the conclusions already attained through the bacteriological examination of the fluid, the most important of which are that the cerebrospinal meningitis of this country is due to the diplococcus of Weichselbaum, that the pneumococcus does not cause epidemic meningitis, and that the sporadic forms of meningitis may be due to any pyogenic microörganism, usually as the outcome of some local disease.

The pathological variations to which the cerebrospinal fluid is subject consist of alterations in quantity and specific gravity, and in differences of the congelation point, which normally between .72 and .78 in tuberculous meningitis becomes .50 or .56. This last fact has led some observers to believe cryoscopic observations may become important diagnostic factors. The chemical constitution of the fluid may have some importance, and the discovery of cholin seems to be considered a fact of some significance, as this body is believed to be a derivative of lecithin.

The normal cerebrospinal fluid contains no cellular elements, or at least only an occasional lymphocyte or endothelial cell. Dana has made lumbar punctures in twenty-two patients, which form the basis of his inferences. In eight cases of paresis he found marked lymphocytosis, the number of cells in 100 fields ranging from 16 to 135. In all cases of alcoholic psychosis there were few or no cells. In a case of cerebellar tumor no cells were found.

In a case of cerebral contusion examination showed 1200 red cells and 44 lymphocytes.

These results tend to show that examination of the cerebrospinal fluid may be of great assistance in diagnosticating doubtful cases. It may determine whether the patient has had syphilis, in which instance many cells are present. It should also be a help in determining the activity of a pathological process. Probably it may afford the best of light in clearing up a diagnosis between tabes and other degenerative lesions of the cord.

The evidence presented so far as it goes tends to the conclusion that the Quincke puncture, a proceeding harmless in itself if done correctly, will often afford us the means of establishing a diagnosis, with a certainty which could not hitherto be attained."

EDITORIAL NOTES.

The Labascha or Hypnotic Ferret.

A writer in the *British Medical Journal* brings forth some curious facts as to the uses to which hypnotism is put in Abyssinia. From time to time a number of children under the age of twelve are selected for the position of labascha, or detector of crime. They are believed to have the power, when hypnotized, of revealing to the proper authorities the identity of any criminal who may be "wanted" for a given offense. For instance, there was a case not long ago of arson at Adis-Ababa. A labascha was taken to the scene of the crime and there thrown into hypnotic sleep. The child forthwith set off in the direction of Harrar. He ran without stopping for sixteen hours, and his pace was so rapid that professional runners told off to accompany him gave up one after the other. When he got near Harrar the boy suddenly took a path which led into a field, where he laid hold of a laborer who was quietly at work there. Thereupon the man confessed his guilt. Again, a robbery with murder was committed in the neighborhood of Adis-Ababa. A labascha was procured, and after being hypnotized proceeded to visit a number of churches and private houses, and at last lay down at the door of an empty hut. The owner on his return was arrested. He at first denied all knowledge of the crime, and was subjected to a searching interrogatory. His movements were traced, and it was found that they corresponded exactly to the course taken by the labascha in finding the hut. The criminal, tortured by remorse, had thrown himself down by the door just as the labascha had done.

It is unfortunate that this novel method of ferreting out criminals does not exist in this country, as our detectives could use some such procedure with great advantage to themselves.

Gastrotomy for the Extraction of 25 Foreign Bodies.

A case of gastrotomy was reported some weeks ago by a French surgeon after a diagnosis of foreign body in the intestine had been made. An incision was made over the junction of the descending and transverse colon, but the intestine was found to be empty, although the stomach was noticed to be full of various metallic bodies. The incision was prolonged in the line indicated, and an incision was made in the stomach two centimeters long. Twenty-five foreign bodies were extracted, comprising eight coffee-spoons, the lower portion of a three-pronged fork, one staple (pattefiche), two bodkins, one tooth of a comb, one blade of a knife, one needle, and one key, the total weight being 230 grammes. To extract these it was necessary to use Péan's long forceps, for the cavity of the stomach was very large. As a general rule these foreign bodies lay perpendicularly to the large curvature of the stomach and at the cardiac end. The mucous membrane was not appreciably ulcerated. The stomach was closed with three layers of silk sutures, and the abdomen was closed without drainage. The patient recovered without a bad symptom, and on the twentieth day he was in perfect health. He had been allowed meat to eat for a week previously. After the operation he confessed that he had swallowed all these foreign bodies some six months previously, but he could not remember how long a time he had taken to do so.

That the human stomach can tolerate such abuse shows it to be a much stronger organ than is generally supposed.

The Dangers of Self-dosing.

The pernicious habit of self-dosing that has of late years taken such a hold upon the majority of people sometimes ends fatally. This is shown by the death of a woman which occurred recently in Duluth, Minn. She is reported to have purchased and taken two headache tablets, after which she became unconscious for six hours, when death ensued. The "headache powder habit" is very dangerous, as these powders as a rule contain drugs which perceptibly lower the heart's action. A few more such results, and measures will have to be taken to prevent the promiscuous sale of such things without a physician's prescription.

Bayliss vs. Coleridge.

The recent trial in an English court of the case of Bayliss *vs.* Coleridge will be noted by all who have the interest of science at heart. Mr. Coleridge publicly charged that Dr. Bayliss tortured animals in his physiology lectures before the students of the London University. He based his accusations upon the statements of two women, Swedish medical students, who attended the lecture at which the tortures were said to have occurred. Dr. Bayliss sued for libel and was awarded $10,000 damages. Such an object-lesson as this may have in the future a tendency to modify the accusations brought by rabid antivivisectionists against the medical profession.

New Paper Currency.

A bill has been recently introduced into Congress calling for a reform in the matter of old paper money. This country has long been backward about making this much-needed reform. Our paper currency is, as a rule, disgustingly dirty. The fact that such dirty paper money as is usually in circulation can and does harbor and disseminate numerous germs of infectious disease should appeal to our national legislators as something that ought to be corrected as soon as possible. The infectiousness of paper money has not been found an insuperable objection to its accumulation, but unless something is done our millionaires will probably be very unhappy.

A Dangerous Swindle.

Denver contributes the latest medical swindle. According to an exchange, a man representing himself to be a health inspector has been going about where contagious disease signs are displayed and offering to remove them at prices varying from $5 up. The sad part of it all is that he has been successful in obtaining a considerable sum of money in this way. No one knows better than the general practitioner how people hate to live up to the law in regard to the placarding of their homes during the time they contain contagious diseases. Still it is rather astonishing to find that many fall victims to a game like that of the Denver inspector.

ITEMS AND NOTES.

DIPHTHERIA is very prevalent throughout the Province of Ontario.

A NAVAL tuberculosis camp has been established at the Pensacola (Fla.) navy yard.

THE Pennsylvania Railroad Company has issued orders compelling all employees to be vaccinated.

THE Atlanta Society of Medicine at its last meeting adopted resolutions in memory of the late Dr. J. McFadden Gaston.

THE death-rate in New York City during the year 1903 (18.15 per mille) is the lowest known since scientific records have been kept.

THE corporation of McGill University has decided to establish a dental department. The course will be for four years of nine months each.

THE official meteorological record shows that rain fell more or less continuously in London on 205 days in 1903, or 39 days more than in 1902.

DR. CHAS. WHITNEY DABNEY has accepted the offer of the presidency of the University of Cincinnati. He will take up his new office September 1 next.

THE organization of the New Orleans Pasteur Institute has been completed, and the institute was formally turned over to Charity Hospital January 4.

La Gazetta Medica is the title of a new medical journal published in Italian in New York City. It is to appear monthly, under the editorship of Dr. Giuseppe Lapenta.

THE death-rate in Philadelphia during the last year was only 18.82 for every thousand in population. This is, with four exceptions, the lowest death-rate in the city's history.

WAR on the spitting nuisance has been declared by the new Health Commissioner of New York. Officers have been sent to the ferry-houses, where the offense is most flagrant, and a number of the lawbreakers have been arrested.

THE king of Italy has, through the Italian ambassador, conferred the decoration of Cavalier of the Order of the Crown of Italy on Dr. James Donelan, attached to the new Italian Hospital in London, in recognition of his services in establishing the throat department.

DR. CHANTEMESSE has been appointed inspector-general of sanitation in Paris, in succession to the late Professor Proust. Dr. Chantemesse's name is well known to bacteriologists throughout the world, especially in connection with research on cholera and typhoid fever.

ACCORDING to official statistics the toal number of cases of leprosy in Germany at the end of 1901 was 37. They were distributed as follows: Prussia, 25; Hamburg, 8; Bavaria, 2; Mecklenburg-Schwerin, 1; Alsatia, 1. In all the cases the disease had been contracted abroad.

THE American Society of Tropical Medicine held its first formal meeting in the auditorium of Houston Hall at the University of Pennsylvania on the evening of January 9. Dr. James Carroll of the United States army delivered an address entitled "The Etiology of Yellow Fever."

A DESPATCH to the *New York Times* from Berlin states that Great Britain, France, and Germany have sent official communications to Washington urging the United States to accept the results of the recent Sanitary Conference in Paris with a view to the prevention of the plague. The United States and Turkey were not represented at the conference.

THE Army Medical Department, in its schedule of desired appropriations amounting to $475,000, has the following: "A modern hospital of 100 beds to cost $100,000 at Fort Riley, a modern hospital of 24 beds to cost $30,000 at Fort Totten, N. Y., the enlargement of the hospitals at Fort Leavenworth, Kan., Fort Snelling, Minn., and Fort Sheridan, Ill., to cost respectively $45,000, $50,000 and $60,000."

ACCORDING to the *American Druggist* of September 28, 1903, hirudin, a styptic and antihemorrhagic for gynecological practice, is prepared by removing the heads and upper segments of leeches, extracting them with distilled water, and subsequent treatment by centrifugation and precipitation with acetic acid. It occurs as a peptone, like albumose, in brownish scales or masses, very soluble in water, but insoluble in ether or alcohol.

THE will of a wealthy citizen of Montpellier, France, bequeaths a certain apartment building to the city authorities, the income from which is to be applied to the support of two young assistant professors—agrégés—who will treat all who apply, including and preferably the rich. The city authorities do not wish to undertake to supply medical care to the rich, and consequently do not know what to do with the bequest.—*Journal of the American Medical Association.*

NOT long ago, says the *New York Medical Journal*, two keepers employed in the Philadelphia Hospital were charged with brutality toward an insane patient. It appeared that rather competent testimony was given by one of the resident physicians, who exerted most laudable efforts toward assisting in the administration of justice. It is now stated that as the only evidence procurable was that of witnesses who themselves were insane, such action would hardly hold in law, and for that reason the case was dropped.

THE first issue of a new journal called the *Journal of Infectious Diseases* recently appeared. The new magazine is devoted to the publication of original investigations dealing with the general phenomena, causes, and prevention of infectious diseases. It has been established in connection with the Memorial Institute for Infectious Diseases, founded by Mr. and Mrs. McCormick in memory of their son, who died of scarlet fever. It is estimated that the annual cost for publishing this journal will aggregate $15,000.

THE International Congress of School Hygiene, which will be held in Nuremberg April 4 to 9, 1904, promises to be of considerable importance. The following are the titles of addresses to be delivered during the general sessions: (1) Professor Cohn, of Breslau: "What has ophthalmology done for school hygiene, and what has it still to do?" (2) Prof. Axel Johannesen, of Christiania: "On the state of school hygiene in Norway." (3) Dr. Le Gendre, of Paris: "On the hygiene and the personal diseases of teachers with regard to their relation to the pupils." (4) Dr. Sickinger, of Mannheim: "Organization of elementary schools based upon the natural capacity of the children." (5) Professor Liebermann, of Budapest: "On the tasks and instructions of school physicians." (6) Professor Hueppe, of Prague: "Prophylaxis of infectious diseases in the school." (7) Professor Eulenburg, of Berlin: "On suicides of scholars."

The Chicago Bulletin of the Department of Health, in discussing the arbitrary action of the local milk dealers, says: "The disastrous effects on child life—threatened by the barbarous action of the milk-wagon drivers in refusing to make more than one delivery of milk a day—were largely overcome by the relatively cool weather of the summer, by unusual effort in milk inspection (including the employment of an emergency corps of inspectors known as 'milk scouts'), and by an enormous development of the sterilized milk service fostered by the Woman's Club and Hospital Association." As a matter of record the mortality of infants and young children during 1903 was lower than ever before known—8.8 per cent less than in 1902, 9.4 per cent less than in 1901, and 57 per cent less than the average of the period between the two census years 1890 and 1900. In 1891 the deaths of children under five years of age numbered 110.38 in every 10,000 of population; in 1903 they were only 41.7.

The International Congress of Otology will hold its seventh congress at Bordeaux, August 1 to 4, 1904, under the patronage of the French Minister of Public Instruction. The following subjects are proposed for discussion: (1) The choice of a simple and practical acoumetric formula, to be introduced by Professors Politzer, Gradenigo, and Delseaux. (2) The diagnosis and treatment of suppuration of the labyrinth, to be introduced by Drs. Brieger, Von Stein, and Dundas Grant. (3) Technique of the opening of brain abscess of aural origin, and after-treatment, to be introduced by Drs. Kapp, Schmiegelow, and Botey. The Lenval prize given in recognition of the greatest progress achieved in the practical treatment of affections of the auditory apparatus during the interval between two sessions of the Congress, or to the inventor of an easily portable apparatus capable of markedly improving the hearing of deaf people, will be awarded during the Congress. The jury consists of Professor Politzer of Vienna (president), Dr. Benni of Warsaw, Dr. Gelle of Paris, Dr. Urban Pritchard of London, Professor St. John Roosa of New York, Professor Kircher of Wurzburg, Professor Grazi of Florence, and Professor E. J. Moure of Bordeaux. The prize consists of the interest on 3000 francs accumulated during the interval between two sessions of the Congress. Candidates must send in a statement of their claims to Dr. E. J. Moure, president of the Organizing Committee, Cours du Jardin Publique, 25 bis, Bordeaux, before July 1, 1904.

NEW PUBLICATIONS.

REFERENCE HANDBOOK OF THE MEDICAL SCIENCES.

The new volume of this encyclopedic work takes us from Saccharin to Ulcer. A large number of important articles are included in its contents—spinal diseases, teratology, typhoid fever, syphilis, tuberculosis, and many others of more or less significance. The volume amply fulfils the promises made on account of this work. It is a most valuable addition to any physician's library, and provides for certain emergencies in medical reference work which can nowhere else be found.

A Reference Handbook of the Medical Sciences. Embracing the Entire Range of Scientific and Practical Medicine and Allied Sciences. Volume VII. Illustrated by chromolithographs and 688 half-tone and wood engravings. New York: William Wood & Co.

THE ACID-AUTOINTOXICATIONS.

Professor Von Noorden's studies have already been brought to the attention of readers. The present volume deals with autointoxications mostly due to acid products of metabolism. These being the greatest forms of self-poisoning are of great importance. Von Noorden's investigations are always thorough, and his conclusions are timely and practical.

Acid-autointoxications. By Carl Von Noorden. Being Part IV of Clinical Treatises on the Diseases of Nutrition. New York: E. B. Treat Company.

INTERNATIONAL CLINICS.

The third volume of International Clinics contains numerous articles of more than ordinary significance. These include lectures on diseases of the gall-bladder and gall-ducts, malaria, summer diarrheas of children, and others. The clinical features of the publication are fully maintained.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Original Articles by Leading Members of the Medical Profession throughout the World. Volume III, Thirteenth Series. Philadelphia: J. B. Lippincott & Co.

PHYSICIAN'S VISITING LIST.

This being the fifty-third annual appearance of Blakiston's Visiting List, no further introduction is required. For the small price of one dollar the physician can supply himself with a visiting list which the verdict of time has adjudged to be among the most useful of those manuals.

The Physician's Visiting List for 1904. Fifty-third Year of Publication. Philadelphia: P. Blakiston's Son & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Surgical Physiology of the Lymphatic System.

C. H. Mayo at the recent meeting of the Southern Surgical and Gynecological Association (reported in *Medical Record,* Jan. 2, 1904) read a paper with this title. He said that a study of the lymphatic system readily explains many normal physiological as well as pathological processes. The subject is deservedly receiving more attention from surgeons, who now generally recognize that aside from acting as the general absorbent system, it is constantly engaged in maintaining nutrition as well as defense against pathological processes. All tissues are provided with lymph vessels and glands in direct proportion to their exposure, activity, and necessity for repair. The tissues of the body are constantly bathed in lymph, which fluid, similar to and derived from the blood plasma, must all pass through the lymph vessels and glands. In the glands the lymph is exposed to the direct action of the leucocytes, which are there found in great abundance. It is in the gland that infection is checked and destroyed, or it might possibly overpower the gland and develop local growth. An enlarged gland is an evidence of a local struggle of a defeat. The lymph system undoubtedly performs a great function in draining the ductless glands. Considering the lymph supply of certain organs, it is found that the brain is deficient in lymphatics in its structure, the arachnoid serving this purpose upon its surface. Hemorrhages into its structure become cysts from lack of absorption, and infections in its substance cause but little temperature or general disturbance, except from pressure. The liver and kidney show the same condition in a less marked degree. The lungs, rich in lymphatics, give constant temperature from infectious diseases. Chills usually signify the direct delivery of accumulations of infection into a vein. In certain diseases resulting from a loss of equilibrium between the production and absorption of fluids, one set of lymphatics is substituted for another by operation, as in glaucoma and hydrocephalus. When lymphatic conditions are considered in connection with surgical work, it is found that there is a real principle involved in drainage, whether it be external or internal. (1) Rest by splints, pressure,

dressing, or bed, to quiet the circulation; (2) by elevation to reduce arterial supply and favor venous and lymphatic return; (3) by massage to break up coagulated exudates and enable the lymph vessels to remove the exuded material; (4) moist dressings favor the escape of exudate from open wounds, and also favor the lymphatic circulation in closed injuries; (5) adjuncts to drainage in the use of solutions having affinity for moisture acting by osmosis, as glycerin or alcohol; (6) wound drainage could be accomplished by the open method, with or without secondary suture; (7) by separate incision; (8) by wicks, capillary or tubular drains, or gauze packs, as mechanical aids.

Concerning Mental Disturbances Following Injuries to the Skull.

Z. Vieden (*Albany Medical Annals,* January, 1904) makes the following conclusions:

1. Injuries to the skull in childhood cause relatively often idiocy or imbecility, which may be complicated by spasms. When intelligence is preserved moral defects are apt to be developed.

2. An injury to the skull is fully capable of inducing in an adult with intact mind a mental disturbance; much more frequently, however, the influence is upon a weakened brain, where the injury is an exciting cause, or in a sound mind the injury acts as a predisposing moment for the development of a psychosis.

3. The mental disorder may be developed immediately after the injury is sustained, or may be postponed for a longer or shorter interval. During the intervening time there are generally certain prodromal symptoms.

4. A form of traumatic insanity as a typical well characterized symptom-complex does not exist, though all psychoses due to injuries to the brain present certain common symptoms, among which may be mentioned marked change in character, irritability, failure of memory, intolerance of alcohol.

5. The following mental states are most frequently found after injury to the skull: primary dementia, hallucinatory confusion, and stuporous states, at times with katatonic symptoms, infrequently paranoia. As to whether epilepsy or paresis may be assigned to this cause appears doubtful, although clinical types resembling these diseases are frequently observed.

6. There is not a very great difference between mental states following injuries to the head and those due to alcoholic excesses.

7. The existence of a mental disorder after an injury to the head indicates greater or less anatomical changes in the brain, mostly due to fine histological injuries, which appear to be related to disturbance in the capillaries. Up to the present time there have been found no constant recognizable changes in the ganglion cells.

8. The prognosis depends upon the form of the disease, and is the same as for similar states existing independently of traumatic origin.

A Study of the Prostate and Treatment of Prostatic Hypertrophy.

G. W. Broom (*Medical Record,* Jan. 2, 1904) says the position of the urethra in the normal state is always in the floor of the bladder; but in urinary obstruction it is always elevated from an inch to an inch and a half or two inches above the floor of the bladder. He takes the position that normally there is no third lobe, but that segmentation takes place behind the prostatic fissure in consequence of a hyperplastic process, this process occurring in the direction of least resistance—into the cavity of the bladder. Only a small percentage of cases of hypertrophied prostate are responsible for urinary obstruction. No matter how large the prostate becomes it would retain its functionating capacity. It is not the organ which causes suffering to the patient. By prostatectomy this functionating organ is mutilated or destroyed, and the bladder, which really causes the patient trouble, is left *in situ* without any operation having been performed on it. In only a small percentage of cases can the prostate be enucleated. It is unfortunate that the profession has reached the point of resorting to routine prostatectomy in all cases of urinary obstruction. The commissure and capsule are obliterated in the fibromyomatous variety of prostate. In the adenomatous variety, if complete and permanent drainage is established, the prostate will shrink.

The Progress of Ureteral Surgery.

At the recent meeting of the Southern Surgical Association J. McFadden Gaston (*Journal of the American Medical Association,* Jan. 9, 1904) spoke on the surgery of the ureter, giving its history and present status. The *x*-ray is the simplest procedure for diagnosis of calculi, but it is not at all times reliable. For this reason especially other plans of examination should be employed.

In the treatment of the ureteral calculi he advocates extraperitoneal ureterolithotomy, as infected urine is usually associated with this condition and easily produces peritonitis. If pus is not present, the establishment of a ureterocutaneous fistula will seldom be necessary, though careful drainage of the wound would be advisable. The ureteral wound should be made longitudinally whenever possible, and sutured after lithotomy. If there is much necrosis of the ureter resection or exsection, with ureteral anastomosis or ureterocystostomy, might be required. Frequently pyonephrosis accompanies calculous ureteritis. Incision and drainage, and probably nephrolithotomy, will be needed in addition. For ureteral fistula nothing need be done unless obstruction of the duct below the fistulous opening exists. In such a case the caliber of the canal must be restored. In subcutaneous injury of the ureter no treatment is advisable unless evidence of extravasation of urine or of ureteral obstruction exists. Abnormal ureteral terminations of congenital origin might be corrected by ureterocystostomy, usually by the vaginal route.

The Surgical Treatment of Gall-stones.

F. Curtis (*New York Medical Journal*, Jan. 2, 1904) in discussing the advantages of operation performed while the stones still remain in the gall-bladder or cystic duct, and before grave infection has developed, says that serious accidents of infection are avoided, and any inflammatory condition which may exist can be improved or cured, just as drainage cures urinary cystitis. The stone is removed before it enters the common duct, thereby preventing all the dangerous consequences likely to follow the presence of a stone in that passage. Further attacks of cystitis and colic are prevented. Further calculous formation is prevented or impeded, for the stones are formed in infected gall-bladders, and the latter may be removed by operation or rendered so healthy by drainage that no more calculi will form. It must be remembered also that latent cases are by no means free from danger, so that the individual who has recovered from an attack of colic cannot be considered cured, even if he is entirely free from symptoms for years, as it is probable that stones remain behind, or that some chronic cholecystitis persists. The possibility of secondary pancreatitis must be kept in mind, and also that of cancer of the gall-bladder, which is more common than has been supposed. Without reference to more important results, it is the general feeling of those with experience in the surgery of

cholelithiasis that in the latent cases, while the patients do not present symptoms pointing directly to the biliary system, they are afflicted with various dyspeptic complaints, and that the latter can be relieved or permanently cured by operation.

The Surgical Treatment of Malignant and Non-malignant Diseases of the Stomach.

A. Vandeveer (*New York Medical Journal,* Jan. 2, 1904) says that gastroenterostomy can be applied to all kinds and conditions of stenosis of the pyloric end of the stomach. It is a preferable operation to that of resection of the stomach in many cases, the immediate mortality being less and the possibility of the extension of life being quite as great, with as much comfort. Next to gastroenterostomy he believes gastrectomy to be the most reasonable and satisfactory operation, yet this operation will necessarily be limited to but a few cases. In doing it great attention should be paid to the removal of the lymphatic glands, as in this rests much of the permanent success of the operation and non-return of the malignant growth.

Ligation and Compression of the Iliac Artery.

Dreist (*Zeit. für Chirurgie,* Bd. 71, H 1-2) finds that ligation of the iliac artery on account of the subsequent gangrene of the leg is a dangerous operation; he therefore maintains that the permanent ligation of this vessel should not be performed, but only a temporary ligation done or digital pressure of the artery maintained. For this latter purpose intraperitoneal digital pressure should be taken into consideration. The author finds that if strict asepsis is observed the danger of opening the abdomen is not as great as subsequent results of ligation.

MEDICINE.

The Principles of Diagnosis of Medical Malingering.

J. Punton (*Medical Record,* Jan. 9, 1904) says that the principles consist in the application of the following rules:

1. The recognition and correct interpretation of inconsistent morbid physical and mental phenomena.

2. By the exclusion and elimination of disorders with which the symptomatology does not agree.

3. Their disassociation with known lesions of all kinds.

These, then, constitute the chief elements which form the principles that govern the diagnosis of medical malingering. In their practical application, however, they at times embody the use of all the various methods known to medical science, while their successful utilization constitutes not only the chief function but also the highest art of the clinical diagnostician, when brought in contact with abnormal conditions said to be due to traumatic influences.

When these more perfect methods and principles, based as they are upon a more rational knowledge of the cerebrospinal architecture and other organs of the body, are duly compared with our former more faulty ones, based as they were upon incorrect knowledge and erroneous inference, the practical benefits which accrue to the more modern medical knowledge and technique can be readily understood, while their universal application to the study of trauma and its evil effects upon the animal economy will not only revolutionize our skill and power in the detection and exposure of all the varied forms of medical fraud and malingering, but tend to raise the standard of medicine to the lofty eminence and dignity of an exact science.

On Sudden Heart Failure in Toxemic Conditions.

A. Stanley (*British Medical Journal,* Dec. 26, 1903) says that beriberi and diphtheria have a marked degenerative action on the heart muscle, which frequently causes fatal circulatory failure. In this respect beriberi and diphtheria each resemble other toxemias, such as influenza, and alcohol and arsenic poisoning, which often cause peripheral neuritis, and also other toxemic diseases, such as typhoid fever, plague, and acute rheumatism, which do not or rarely give rise to peripheral neuritis.

Beriberi and diphtheria are the diseases *par excellence* in which sudden fatal heart failure occurs.

The heart-muscle degeneration is not a secondary result of neuritis of the vagus.

The heart-muscle degeneration takes place as a rule before skeletal-muscle degeneration, and is the result probably of direct action of the toxin and not a secondary result of nerve change.

Sudden heart failure does not indicate a sudden lesion, but rather is the result of a gradually increasing heart weakness from cardiac-muscle degeneration, which may be precipitated by any sudden exertion, but more frequently is the result of

the principle of "all or nothing," the transition from "all" to "nothing" being necessarily rapid.

The cardiac physical signs in beriberi closely resemble those found in diphtheria and are of paramount importance in prognosis and treatment.

A Separate Center for Writing.

Always an interesting ground for theory and speculation, the centers for speech and allied functions have given rise to much and interesting discussion.

In the September number of the *American Journal of the Medical Sciences* H. C. Gordinier offers the following propositions in support of the view that there exists a separate center for writing distinct from the motor, speech, or arm center, with probable location at the base of the second left frontal convolution:

First, that there is sufficient clinicopathological data to show that motor aphasia and agraphia do not necessarily exist together, and that complete destruction of Broca's center does not necessarily cause agraphia.

Secondly, that when motor aphasia and agraphia coexist, the lesion probably involves the bases of both the second and third left frontal convolution in the right-handed, or the association tracts connecting these centers with the visual or auditory word areas.

Thirdly, isolated motor agraphia, though exceedingly rare, does occur and depends upon a lesion of the base of the second left frontal gyrus in the right-handed.

He then reviews cases tending to support these propositions, and reports in full an interesting case of his own.

The Histopathology of Molluscum Fibrosum.

A. Fuich Noyes (*Journal of Pathology and Bacteriology,* December, 1903) says that the so-called molluscum fibrosum growths arise from branches of the cutaneous nerves by proliferation of the endoneurium. The new tissue may remain confined by the perineurium for a period, or it may break away and become diffused at quite an early stage, spreading into the adjacent tissue surrounding any or all of the structures of the corium and subcutaneous tissue, including altered nerve branches themselves which are still confined by the perineurium. The proliferation

of the endoneurium, and the consequent disappearance of the nerve fibers and their axis cylinders, lead to more or less loss of sensation in the cutaneous surface overlying the new tissue.

Similar changes in the nerve composing the vasomotor apparatus of the cutaneous vessels involved in the new growth may account for the clinically observed discolorations in connection with them.

Small nodular projections, due to proliferating endoneurium confined by perineurium, may occur in the smaller nerve branches, giving microscopically a neurofibroma-like appearance, without being clinically recognizable as such.

Lime Deposits in the Kidneys.

E. Bur (*Journal of Pathology and Bacteriology,* December, 1903) says that lime deposits in the kidneys are a very common pathological condition. Deposits heretofore classed as metastatic differ in no wise from those where no bone disease exists. Microscopic deposits were found in fifty-three of one hundred cases. Before the twenty-fourth year these were not found, but after that age they were very common, and practically always present after the thirty-fifth year. Age, carcinoma, sepsis, and nephritis influence the production of these deposits by local changes, either nutritional or toxic. Deposits are most frequent in cystic and fibroid Malpighian bodies—less frequent in cystic tubules and their epithelium.

The presence of the small spherical white lime masses in the cortex or on the surface of the kidney points to a chronic interstitial nephritis often before the other changes upon which the microscopic diagnosis is based are evident.

Influence of High Pressure on Microörganisms.

Chlopin and Tammann (*Zeit. für Hygiene,* Bd. 45, H. 2) made some experiments to ascertain the effects of pressure on microörganisms. The pressure used was 2900 atmospheres, and it is remarkable that the bacteria subjected to this pressure—anthrax, cholera, pyocyaneus, staphylococcus, pseudotuberculosis, prodigiosus, sarcine, typhoid, tuberculosis, pneumococcus, yeast, and pseudodiphtheria—were not destroyed. A simple subjection to the pressure had no effect, though by repeating it six times an impairment of the bacteria resulted, reducing their motility

and power of multiplication. Some organisms are very susceptible to this pressure, whilst anthrax, pneumococcus, cholera, and yeast are decidedly resistant.

A New Gonococcus Stain.

A Bernstein (*Monats. f. Prakt. D. Erin.,* No. 37, 1903) describes a new stain for the gonococcus:

Sat. alcoholic solution auramin	2.0
Alcohol, 95 per cent	1.5
Sat. alcoholic solution thionin	2.0
Sol. methylene green (sat.)	3.0
Aq. dest	6.0

By this method (1) the deeply dark-stained gonococci stand forth prominently from a light background; (2) the other bacteria and cocci are either faintly stained or not stained at all; and (3) the staining requires only ten to fifteen seconds, and the positive examination not more than a few minutes.

Aneurism of the Hepatic Artery.

Gruenert (*Zeit. für Chirurgie,* Bd. 71, H. 1-2) reports thirty-five cases of aneurism of the hepatic artery, the larger number of which were found in men. In fifteen cases infectious disease preceded the occurrence of the aneurism; the balance could be traced to trauma. In twenty-five cases rupture of the artery occurred, and in ten cases into the abdominal cavity. The symptoms consisted of severe pain, hemorrhage per os or per anus, and in no case was a correct diagnosis made before death. The prognosis is bad. The only treatment which would suggest itself would be the vivifying of the liver surface in order to produce an anastomosis and thus gain a collateral circulation, and a few weeks after ligating the artery.

Hyperplasia of the Pharyngeal Tonsil.

Thos. J. Harris (*American Medicine,* Jan. 2, 1904) says that the pharyngeal tonsil possesses a distinct function or functions. This function is of the nature of a defense against the entrance of bacteria, and consists in a certain irrigation of the tonsil surface by a lymph stream loaded with lymphocytes. This protection function carries with it the inherent qualities of the tonsil to enlarge on the slightest irritation for the affording of further

power of defense. This inherent tendency of the tonsil to enlarge is further seen in the frequent recurrence of the tonsil after removal. Strictly speaking, then, in the great majority of cases such enlargements are not a pathologic but a physiologic process.

Starch Digestion in Infancy.

Henry K. Shaw (*Albany Medical Annals,* January, 1904) says that the saliva of very young infants contains a diastatic enzyme capable of converting small amounts of starch into maltose. The diastatic action of the saliva may continue in the stomach as long as two hours after feeding, so that on physiological grounds there is no reason why young infants cannot digest small amounts of starch.

THERAPEUTICS.

The Management of Rheumatism in Children.

J. E. Winters (*Medical Record,* Jan. 9, 1904) says for the control of active rheumatic manifestations there are two leading factors—the state of the digestive organs and the diet.

With a coated tongue give calomel, followed by rhubarb and soda; the latter is to be persisted in as long as the tongue is furred. The dose of rhubarb is proportionate to its effect on the bowels; soda should be in twenty-grain doses three times a day, before nourishment.

Milk should be the sole food as long as evident symptoms remain.

The proteid of milk contains no nuclein, and yields no uric acid. The urine becomes uric-acid-free on milk diet. Milk contains an abundance of phosphate of potash—muscle salt. Citric acid, a valuable antirheumatic, is present in considerable amount.

The first extension of the diet should be the addition of a strained cereal to milk.

Mention of cereal within hearing of the patient is unfortunate and injudicious. The rheumatic child invariably has an abhorrence of cereals. This constitutional loathing of the child's natural food is traceable to faulty feeding. Savory broths, soups, beef juice, excess of meats, etc., create a repugnance to the vitally indispensable cereals and vegetables. Animal broths are totally destitute of food properties. This is ancient, recent, and unalter-

able physiology. Nevertheless physicians wittingly and knowingly recommend them for children, where the first requisite of all food is its building or tissue-forming value. There is a vast amount of obscure ill-health in children from heedless use of these foodless preparations.

When animal food is to be added to the diet it should be in the form of meat, not broths or beef juice. The contained extractives of broths and beef juice, by overstimulating metabolism, aggravate rheumatic anemia and every rheumatic tendency.

Cereals must be eaten without sugar.

Sweets and animal broths in children, and alcohol and sweets in adults, are the bane of the rheumatic patient, and constantly discredit the physician by thwarting all treatment.

Vegetable soups—pea, asparagus, celery, potato, bean, tomato —are nutritive and appetizing.

When all active rheumatic manifestations have been dispelled, animal broths or cereals are adjuncts by stimulating appetite. They are not given for any food value, but for appetizers.

Having secured a clean tongue, all phases of rheumatism vanish with milk as the only food for a proper period; then, in due succession, strained cereals, vegetable soups, cereal as a vegetable with butter and salt, baked potato, bread, green vegetables, fruit.

Failure in dietetic management in the past is attributable to excessive use of broths and other animal food, sugar and sweet desserts, the use of alcohol, withdrawal of fruits and cereals.

The Treatment of Carcinoma and Tuberculosis by Means of the Roentgen Rays.

G. E. Pfahler (*St. Louis Medical and Surgical Journal,* January, 1904) is convinced of the following conclusions:

1. That the *x*-rays are of undoubted value in the treatment of certain cases of both superficial and deep-seated carcinoma and tuberculosis.

2. That the more a case has been tampered with the less likely it is to yield to the influence of the *x*-rays.

3. That daily treatments, carefully and properly given, will produce the best results.

4. That we should try never to produce a dermatitis beyond a simple erythema.

5. That there are idiosyncrasies in certain people which render them most susceptible to the *x*-rays, and in these people deeper burns may occur in spite of the most careful treatment.

6. That epithelioma involving the mucous membrane is much less likely to yield to the effect of the *x*-rays than when it simply involves the skin.

7. That there is not likely to be any interference with the sense of sight even though the *x*-rays are used directly over the eye.

7. That tuberculosis, whether of the skin or of the glands, will yield, at least in certain cases, to the effect of the *x*-rays.

9. That the *x*-rays may be of value in certain cases of deafness.

10. That the *x*-rays will give better cosmetic results than any other form of treatment in simple epithelioma of the face.

11. That epithelioma of the mucous membrane should be removed as early as possible by the knife, and this followed by the *x*-ray treatment.

12. That operable cases should be operated upon, and in each instance followed by a course of *x*-ray treatment, and *x*-ray treatment should be given at the first sign of a recurrence.

13. That inoperable cases should be given a trial with the *x*-rays, since even hopeless cases sometimes yield to this form of treatment.

14. That it is desirable to produce a distinct reaction in the treatment of lupus.

Suprarenal Medication in Addison's Disease.

Boinet (*Bulletin de l'Académie de Médecine; Journal of the American Medical Association*) deducts the following conclusions from his experience in eight cases of Addison's disease treated with adrenalin, and experimental research by himself and others. He warns that this treatment is contraindicated in severe and advanced cases of Addison's disease, as there is danger from the subcutaneous injections when only a small part of the parenchyma of the suprarenals is still intact and able to fulfil its physiologic task. Even in recent and early stages of the disease the dose should never be more than one-third milligramme. In these early cases we may anticipate, he says, that in these small doses the adrenalin will stimulate the still sound portions of the gland to compensating hypertrophy. It is better to fraction even this dose, and the medication should be suspended if tremor or other indications of intolerance supervene. The longer it is continued the smaller the doses should be and the longer the intervals. He found an aqueous glycerin extract the best preparation for the

purpose, not surpassing the doses of one cubic centimeter, supplemented possibly by ingestion of some other preparation of the glands in the intervals between the subcutaneous injections. He thinks that it may be preferable to substitute oxyadrenalin, which is only one-tenth as toxic as adrenalin itself. He suggests the possibility of anti-Addisonian serum treatment for advanced cases. Six of his eight cases were very much improved after an average of 220 subcutaneous injections of the glycerin extract of suprarenal capsules; but two others in more advanced stages died in two to four days after this treatment had been instituted. The cases are reported in detail.

Treatment of Granulating Cutaneous Wounds.

Wagner (*Centralblatt für Chirurgie,* 50) finds on account of the use of salves in the treatment of granulating wounds of the skin that the granulations usually persist, and that the epidermal edge is frequently thickened and swollen, and in fact breaks down and does not allow of any epidermal proliferation. He therefore advises in cases where transplantation cannot be resorted to that the wound should be treated openly. Only at night should the wound be covered with a powder dressing, and in the morning cleansed; no dressing should be allowed to come in contact with the wound, but it should be allowed to dry in the air. The author observed granulating wounds the size of the hands to heal within eight to ten days by this treatment. The possibility of an air infection he does not consider, because during the years he has employed this method he has never observed an infection.

The Treatment of Myasthenia Gravis.

The therapeutics of myasthenia gravis is, says Henry Hun (*Albany Medical Annals,* January, 1904) an affair of the future. At the present time no way is known to prevent the development of the disease, or to cure it when it has developed. A great variety of therapeutic measures, both external and internal, have been employed without success. Most observers are agreed that the patients should have complete rest, and that their muscles should be moderately stimulated by mild galvanic currents and by gentle massage. The nutrition of the patient is always a difficult problem. The heartiest meal should be taken early in the day, when the patient is least tired. Usually the food should

be liquid or semisolid, but if there is much regurgitation through the nose, solid food may be swallowed easiest. There is no drug which seems to influence the disease favorably.

The Bactericidal Power of Soaps.

Konradi (*Archiv für Hygiene,* Bd. 44, H. 2) observes that soaps have no greater disinfecting power after the addition of resorcin than before, which is contrary to the usual belief, which is that the alkalinity of the medicament added to the soap is germicidal. In examining soaps at different periods in the process of their manufacture, he comes to the conclusion that the odorous substances of the soaps—for example, vanillin, terpinol, heliotropine, etc.—are the cause of their disinfecting properties. When additions such as the above have not been made, as in glycerin soaps, no germicidal power can be demonstrated.

The Serum Treatment of Typhoid Fever.

Max Einhorn (*Medical Record,* Jan. 16, 1904) discusses the serum treatment of typhoid fever, and says that in most cases where it has been used the disease does not seem to have been shortened materially. Either on the day after the first or on that after the second injection a marked reduction of fever usually occurs; this is about one to two degrees lower than previous remissions and lasts longer. The general condition, especially the sensory and nervous symptoms, are much improved, so that some grave complications, such as sleeplessness, headache, restlessness, delirium, disappear nearly entirely.

The Action of Iron upon Bone-marrow.

R. Stockman (*Journal of Pathology and Bacteriology,* December, 1903) says that when iron is given hypodermically to rabbits there is slight reaction on the part of the marrow, not specific, but such as happens with many other foreign bodies.

When iron is given by the mouth no change occurs in the structure of the marrow, and there is no evidence of increased formation of red blood-corpuscles.

Iron, therefore, promotes formation of red blood-corpuscles simply by supplying the necessary hemoglobin.

Application of Constant Heat.

Ullman (*Bl. für klin. Hydrotherapie,* 1903, No. 3-5) advises the use of his hydrothermo regulator for the application of constant heat. This apparatus facilitates the application of both dry and moist heat to any portion of the human anatomy for hours or days, as it may be necessary. In a number of conditions, such as erysipelas, furunculosis, gonorrheal epididymitis, and other skin affections, he gained good results by the application of constant moist heat. He employed a temperature of 45° C. According to the seat of application he regulates the temperature of his thermostat.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Nasal Polypi: A Study of One Hundred and Forty-seven Cases.

J. Payson Clark (*New England Medical Monthly,* Nov. 11, 1903) declares that his greatest hindrance in the study of these cases was the difficulty of sufficiently impressing upon patients the importance of following up treatment and reporting as often as desired for observation. The usual site for these growths is in the region of the middle turbinated bone, from some part of the outer wall of the nose concealed by the middle turbinate, but more often from the turbinate itself, either from the lower border or from the outer or (more rarely) the inner surface. The writer finds no evidence of any constitutional diathesis or impairment of the general health standing in any causative relation to this affection. Heredity appears to play no part. More than half the cases were between thirty and fifty years of age. A neglected injury to the nose might conceivably result in polyps. Suppuration of one of the accessory sinuses is another predisposing cause of the growth of nasal polypi. All but about a fifth of the cases gave a history of frequent head colds. In a large proportion of cases, obstruction to respiration is the first symptom which calls the patient's attention to his nose. Sneezing was marked in about a third of the cases. The discharge varies from watery to mucous. The writer states that probably only a small proportion of cases are caused by sinus disease (usually ethmoiditis). A local vasomotor disturbance, which may be of

constitutional origin, stands in a causative relation to polypi in a certain proportion of cases. The removal of the whole middle turbinate will be found necessary in many cases when the growths are diffuse. Many cases of nasal polypi can be cured if patients will return for treatment as instructed.

Dermoid Cyst of the Nose.

W. Dubreuille (*Journal de Médecine de Bordeaux*) reports a case in a child of seven years. According to Lannelongue and Menard dermoid cysts of the nose are primarily congenital fistulæ, which become cysts only by temporary obliteration of their orifice. They admit, however, that they are formed by the inclusion of the ectoderm in the dorsal groove. The diagnosis of nasal dermoid cysts is not difficult. They are characterized by their orifices, from which they project hairs, and from which there is always a whitish exudate formed of corneal cells easily recognized by a microscopic examination. Extirpation is the only treatment. It is sometimes difficult on account of adhesion of the cysts to the skin; in the author's case there was inclusion within the bone without adhesion.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Pemphigus Neonatorum in the Light of Recent Research.

H. G. Adamson, M.D., M.R.C.P., physician to the skin department, Paddington Green Children's Hospital (*British Journal of Dermatology,* December, 1903), says that pemphigus neonatorum has long been regarded as a contagious disease. As clinical evidence of its infectiousness are the facts that it so frequently occurs in epidemics; that in many instances the mother, the nurse, or the other members of the family have been attacked; that epidemics in lying-in institutions have been almost unknown since the introduction of antiseptic methods, cases being now almost confined to isolated examples and to small epidemics of a mild type among the very poor.

As to the manner in which the infection spreads, it cannot be by direct contact in infants of only a few days old, so that

each case in an epidemic must arise from some common source. In the majority of outbreaks on record the actual source of infection has not been traced.

The view that pemphigus neonatorum is closely related to impetigo contagiosa has been held by many writers.

The clinical evidence of the relationship of this affection with impetigo renders it probable that here also in the majority of cases a streptococcus will be found, either the streptococcus pyogenes or an allied form. The staphylococcus pyogenes aureus, which is responsible for the subsequent pustulation of the contents of the lesions which are at first clear, and also for an occasional furunculosis, is, as in the case of impetigo contagiosa, invariably present, but only as a secondary infection.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

New Growth of the Round Ligaments.

A. Nebesky (*Monats. f. Geb. u. Gyn.,* No. 42, 1903) describes three tumors of the round ligament—a fibromyoma lymphangiectode, arising from the extra-pelvic part of the ligament, a fibromyoma of the left ligament, and a hydrocele muliebris which had developed from the right round ligament. In connection with these cases he has arranged in a convenient tabular form all the tumors of the kind described up to the present, giving special prominence to such as have contained epithelial elements.

The Round Ligament in Herniotomy.

R. Kayser (*British Gynecological Journal,* December, 1903) notes that in four instances the first symptoms of retroflexion of the uterus appeared after radical operations for hernia, and opines that some injury to the round ligaments during the operation may have led to the subsequent displacement. He therefore recommends that whenever a woman is operated on for inguinal hernia the round ligament should be isolated, and without any shortening be made fast to the inguinal ring.

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ORIGINAL CONTRIBUTIONS.

THE JEWISH DIETARY LAWS FROM A SCIENTIFIC STANDPOINT.

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The Hebrew word "kosher" denotes any alimentary substance or foodstuff, which by virtue of its salutary nature is conducive toward the proper nourishment and maintenance of the human economy, without giving rise to any disturbances after being ingested. "Treife" signifies anything which, possessing more or less toxic or unsalubrious properties, is not alone unable to sustain the wants of the organism, but is also instrumental in the possible creation of symptoms directly or indirectly attributable to the food partaken. In short, *kosher* means wholesome and sanitary, while *treife* conveys the idea of anything unhealthy, malign, poisonous, and inefficient for the needs of the human body.

The present age and century are periods of extreme skepticism and are marked by a healthy agnosticism and profound scrutiny. They do not permit of haphazard assertions and nonconfirmable statements; everything brought to their view and presented to their keen and penetrating glance must be illumined by the searchlight of science and stand the test of repeated investigations. If after a deep scrutiny it has proven to be beyond doubt and reproach, then only does science bestow upon it the stamp of approval and affix to it the seal of permanent value. And science has proven—as will be noted after a perusal of the following pages—that the dietary laws of the Jews conform to the dietary as well as sanitary laws of to-day; they have received the unanimous sanction of the medical profession and every unbiased sanitarian.

The present essay will limit itself to a discussion of the interdicted members of the animal kingdom barred from the dietary

of the Jew. A few remarks relative to ritual slaughter and carcass inspection will also be ventured. It will endeavor to elucidate the reason—other than a mere religious one—of their strict prohibition. By doing so it will have to resort to a consideration of certain zoölogical features bearing on this question, as well as to theories belonging to the realm of evolution.

Evolutionary zoölogy teaches us that animal organisms of a simple anatomical construction are less adapted to alimentary purposes than those of a complex constitution; hence the various animalculæ, Reptilia, Mollusca, and Crustacea, are not only insufficient as articles of diet, but give rise also to ptomaine and manifold other forms of intoxication. Moreover, we encounter a variety of microörganisms infesting these lower forms of animal life, which very easily become a prey to the former, as having but a weak resisting power and endowed with a low vitality. Animal organisms of the above type are decomposed with great facility; they also multiply in enormous proportions in accordance with the *law of the preservation of species.* From the foregoing it is obvious that the simpler an animal is constructed, the less fit it is for the sustenance of the human body, the speedier it undergoes decomposition, and the more prone it is to create constitutional disturbances after being partaken of.

There is another very important feature the author wishes to mention in connection with the discussion of animal evolution, namely, that the antediluvian, prehistoric, and gigantic organisms have almost all subsisted under a flesh-devouring regimen; they have all been *carnivorous* animals. As they, however, ascend the scale of progression, we find that they have also acquired the tendency to subsist under a plant or vegetable diet; they were gradually transformed into *herbivorous* animals. We know beyond controversy that the fiber of animals, the recipients of an exclusive nitrogenous food, is extremely tenacious, requiring much heat to render it pliant and masticable, before it can be pronounced fit to reach the table. On the other hand, animals which depend upon vegetables as their sole sustenance possess delicate and tender muscular fibers, demanding very little thermic and gastronomic efforts at preparation. The latter class of animals harbor a special digestive apparatus for the elaboration of the chyle; by means of this special mechanism they are enabled to ruminate. The carnivorous animal structures, however, have a very simple digestive apparatus and require very little labor in digesting their food. From the above we may easily deduce that the herbivorous animals are of a higher type, and thus more adapted to the

dietary than the carnivorous animals, whose fiber does not lend itself as readily to culinary purposes; this substantiates the evolutionary doctrine that *complexity tends toward progression, and simplicity of organization and structure indicates a primitive developmental type.*

Domestic animals exhibit delicate muscular fibers, while those in the wild state yield a comparatively tenacious musculature. The flesh of the domestic chicken, for example, is more savory and digestible than that of the duck—the latter being an *omnivorous* fowl, while the former is a herbivorous bird.

The human stomach is the most complex of the entire animal kingdom, not only by virtue of its manifold anatomical aspect, but also on account its very complex physiological mechanism. Man is an omnivorous creature. Should human beings subsist under a strict animal diet their existence would be undermined in a short time, as nature does not permit of exclusiveness. Were, again, men to depend solely upon a vegetable diet they would in due time manifest certain traits, both mental and physical, which may eventually assume a degenerative type. Hence a combination of both varieties is indispensable for the proper maintenance of the vital powers. Moreover, *the consumption of such articles of diet showing a higher degree in the scale of evolution is of paramount importance in keeping up the equilibrium of the human system.*

Dietetics teaches that milk is the most nutritious and easy digestible article of diet; that it furthermore possesses all the constituents necessary to maintain human life indefinitely. Moreover, it also contains elements specifically essential to the nervous system and normal development of the osseous structures, supplying both of these systems with the most vital of principles, namely *nucleo-phosphorus,* which the lacteal fluid contains in considerable quantities. The human stomach disposes of milk speedier than any other nutrient; the period required for the total digestion of milk is very short.

Chemistry—the argus-eyed science—advises us that milk contains albumen in the form of casein, a special kind of sugar (namely, milk-sugar), fats in the form of glycerol butyrate, salts, etc. Albumen is the most essential and necessary ingredient upon which life and its successful continuation depends. Milk harbors the most digestible form of albumen, viz., casein albumen. Animal albumen, which is found in every animal texture without exception, necessitates a greater effort on the part of the stomach and requires more time for its complete digestion than casein albumen. Anything derived or prepared from milk is of a com-

paratively easy digestibility. The above serves as an explanatory introduction to the subjoined paragraph, from which will be elicited the reason why a mixed milk and meat diet, or rather soluble and fibrinous albumen, is not well borne by the gastric apparatus when simultaneously ingested.

A diet of mixed albumens—*i.e.*, both animal and liquid albumen (the latter as represented in milk)—burdens the digestive capacity of the stomach and puts a heavier peptogenic task upon it. The consequences accrued from it may in time assume formidable aspects, as apepsia, the various degrees of gastroptosis, and a host of manifold disorders of the digestive tract. It should also be borne in mind that vegetables contain more or less albumen, which is termed vegetable albumen or gluten. If, for example, an individual should partake of the various types of albumen at one meal, he or she would soon encounter some oppression or disturbance in the digestive organs, which may subsequently lead to more serious affections.

Let us now examine the various animals of the Bible bearing the stamp of interdiction, with a view to test them with the standard of principles promulgated on a preceding page. They may be divided into: (*a*) Mammalia; (*b*) the Avenine order or birds; (*c*) Piscines or fishes, Crustacea or crust-covered animal structures, as well as Mollusca, Insecta, and Reptilia.

The author wishes to remark that the majority of the "cloven-footed" animals are herbivora.

The subsequent section will be devoted to the enumeration and discussion of the prohibited Biblical animals from a scientific point of view.

(1) MAMMALS, RODENTS, AND OTHER HIGHER FORMS OF ANIMAL LIFE.

The camel is an animal whose flesh is interdicted as a food. The "ship of the desert," as it is styled, is unsuitable as an article of diet on account of the unsavory and repugnant taste of its flesh. Travelers of the Sahara and other desert regions testify to the unwholesomeness and utterly unfit nature of camels' fiber; it is apt to undergo decomposition quite readily, and furnishes a favorable soil for the growth of the various saprophytic forms and numberless other bacteria. In the same category belongs the coney, to which the aforementioned features are equally applicable. There is scarcely an animal belonging to the family of rodents whose flesh is as tenacious as that of the hare and rabbit. Special culinary preparations are necessary before it can be

regarded a fit dish. Its flesh is one of the most indigestible of animal tissues. In connection with the present subject it is well to mention a few interesting points concerning some members of the genus under question. The mouse and rat have been accused, and rightly so, of harboring and disseminating the bacillus of plague or pest. This has been repeatedly verified by bacteriological research by Professor Hawkin, and every plague-infected locality takes the most stringent measures to eradicate all mice and rats and other varieties of rodents, the messengers of the most horrible form of death. Millions of money are expended by the British government to rid India of these infected animals. A bounty is offered in Belgium for every mouse and rat killed. The Chinese, who partake of the flesh of rodents, are mercilessly decimated by the plague.

The hedgehog, weasel, lizard, and mole are also the carriers of the most virulent bacteria and microörganisms. Their flesh undergoes decomposition very rapidly, and they are thus barred from the culinary domain.

Very little need be said about the swine. The squalor and filth it lives in and assiduously seeks, the dirt it revels in, the various contagious and infectious diseases it shelters, should debar it from the table of every intelligent man, be he Jew, Mohammedan, or Christian. One of the most formidable, dangerous, intractable, and incurable of diseases is "trichiniasis;" its origin is to be solely detected in the porcine family. Not alone this, but also thelminthiæ of various types, as tænia solium and tænia mediocanellata, as well as other parasitic forms, may infest the intestines and body at large of those who relish the flesh of the most disgusting and repugnant of animals. And, moreover, there is another affliction attacking the sus scrofa, namely, hog cholera. The individual is not to be envied who partakes of that particularly tainted fiber, for some trouble is likely to ensue from the too liberal use of the same.

We shall now consider the *piscines* or *fishes.*

The Bible forbids the consumption of all aquatic animals not the possessors of fins and scales. Here again we are forced to resort to the evolutionary doctrine, which teaches that all the structures of the watery province having squamous tunics are of a higher type than those which lay no claim to these appendages. In the same breath it also informs us that those fishes owning fins stand still higher on the ladder of evolution. To reason from an *a priori* assertion, it would seem that they are more suitable as articles of diet than those which are deprived of the aforemen-

tioned requisites. They are easy of digestion and of greater nutritive value than the scaleless inhabitants of the Neptunian kingdom. As an adequate example serves the classical fact repeatedly rehearsed in all books on hygiene and sanitation and known to every tyro of sanitary sciences, namely, the communicability of typhoid fever through the medium of the oyster, which belongs to the type or order of mollusca, an intermediary group to the above class. The eel is another member of the foregoing genus; it is a so-called creeping fish, and although relished by many can lay no claim to a wholesome and nutritious food.

The following section treats of the fowls regarded as unclean by the Bible. The assertions relative to mammals, as advanced above, are equally true of the present class. Carnivorous birds are tabooed on account—as I have reason to believe—of the difficulty wherewith their fiber is digested. It will be found that the majority of the prohibited birds subsist under a flesh regimen exclusively; their flesh is exceedingly tenacious and requires a high degree of temperature for softening and rendering it tender. Birds of an advanced age are altogether useless as a food, on account of their unpalatable and indigestible nature; this is not the case, however, with the domesticated or herbivorous birds; even in their extreme age they lend themselves more readily as a food than wild and carnivorous birds of a similar age.

The following birds are pronounced unclean: The eagle, ossifrage, osprey, vulture, raven, ostrich, night-hawk, cuckoo, hawk, owl, swan, pelican, gier-eagle, stork, heron, and lapwing. The inhabitants of the torrid regions are familiar with the unwholesome character of ostrich's flesh; they will rather prefer the flesh of the boa constrictor than eat a morsel of ostrich fiber. It is the only bird in existence which boasts of a monopoly of all that is savory and unsavory, edible or inedible, in the entire creation. It makes little distinction between a juicy and jelliferous insect and a lump of anthracite coal. It swallows both of these incongruous substances with equal avidity and greed.

Some of the instances mentioned above may alone suffice to justify and commend the wise Biblical dietary ordinances. Every one is forced to admit that Moses was a painstaking and thorough sanitarian. The cause of the unjust aversion toward Biblical precepts is the prejudice so-called "cultured" people harbor in their breasts—and very unreasonably so, as prejudice commonly is—to all matters having the slightest connection and deprecating all and everything covered with the hue of tradition. Were our self-styled philosophers and the strongly biased scientists to view matters

more critically, less partially, and not through obscuring and dim prisms of onesidedness, and study more the intrinsic qualities of things, what a wealth of information, what a treasure-house of knowledge, would be opened up to the true investigator!

But this is rather an unpardonable digression from the subject the author is trying to analyze and interpret.

The next paragraph will treat of insect life and the various reptiles considered unclean Biblically.

It cannot be denied that the Biblical classification does not correspond with the system of zoölogical classification in vogue at present; it is rather very rudimentary in its scope. The bat, for example, is classed under the category of birds. But it must be considered at what epoch it was written. For all practical purposes, however, with certain minor exceptions, the Biblical classification need not take a single step backward from that of a more modern stamp.

Insects and reptiles are very low forms of animal life; they stand evolutionally on a very subordinate scale. As a food they serve a very inferior position, and are partaken only by natives of the torrid zones and that species of humankind which is as yet in its infancy. Savage tribes are the only consumers of insects and reptiles of various description; they devour the locust and declare it to be palatable. The boa is another dish which they relish with obvious satisfaction. But behold their mental caliber! Examine their emotional make-up; regard the savagery, cannibalism, and their repugnant state domestically and socially—what an abyss of depravity, what a chasm of emotional perversion, what a whirlpool of mental inferiority! As their diet, so their intellect and abstract self! The author has ample reason to believe that through the medium of our food we mold and fashion to some degree the extent and latitude of our emotional and intellectual spheres. The points of interest enumerated and depicted above should serve as another reason in favor of at least a consideration of, if not a strict adherence to, Biblical sanitary precepts.

There are four species of locust which the Bible permits as a food; but their nomenclature is so involved, their exact identity so doubtful, that we are really at a loss as to the kind of locusts specifically meant.

The tortoise, belonging to the class under consideration, is known to carry in its crusty covering a number of microörganisms, and there are cases of deaths on record which are traceable to the eating of turtle flesh. The snail, mussel, and the different varieties of crabs, are animals, to which the above is equally applicable.

We arrive now at a very important and vital juncture in our discussion, that of ritual slaughter and meat inspection. They are two of the most beneficial features which have been inaugurated in Jewish life; they are a boon, a veritable blessing, not alone to the Jews, but to humanity at large. Every conscientious and impartial scientist, every sincere and unbiased sanitarian, is aware of the inestimable value, the sanitary importance, and urgent need of the aforementioned features.

In order to fully appreciate the value of these two institutions, it is necessary to resort to a brief exposition of certain anatomical points, without which a thorough comprehension of the subject is well-nigh impossible.

There is a nerve which originates in the floor of the fourth ventricle of the brain which controls and regulates the cardiac action, respiration, as well as the function of the digestive organs. This nerve is called the vagus or pneumogastric nerve, on account of its extensive distribution. If this nerve be injured, cardiac action and respiration are either but partially or ineffectively performed, or if the nerve is severed, entirely abolished. This takes place within an inconceivably short period; consciousness is instantaneously lost, and life departs very soon after. The most superficial location of this nerve is the anterior cervical triangle. In the same vicinity we also find two large and important blood-vessels, viz., the carotid artery and jugular vein. If any of these structures be cut, the nerve is divided at the same time, and death is thus inevitable. A sharp instrument cutting and severing these vital points will immediately throw the animal into a state of absolute unconsciousness, and extinction of life will follow almost immediately.

The animal slaughtered in the above manner loses enormous quantities of blood, which is thus prevented from accumulating in other parts of the carcass, which would be the case were the animal to be killed by the usual method in vogue now—namely, stunning it. The blood thus accumulated disintegrates or decomposes fibrous structures quicker than when allowed to escape. Blood itself is a good disinfectant; but allow it to become stagnant in one place for some time, and it will soon become the recipient of numberless forms of lower animal life. Hence, ritual slaughter is the most preferable method for two very weighty and incontrovertible reasons: (*a*) The total absence of suffering and agony, which usually accompanies the stunning process; it is the most cruel, merciless, and condemnable method of "civilization," and should be discarded as the most inhumane, heartless, and

brutal form of killing. Still the societies for the prevention of cruelty to animals never bestow the slightest attention upon this subject, to the sorrow and shame of humanity! (*b*) The ritual killing of animals is justified not only as a humane procedure, but also from the standpoint of sanitation. The animal thus slaughtered is less apt to undergo decomposition, which, as already remarked, is the case with the stunning process.

The system of meat inspection as practiced by the Jews is the most thorough, painstaking, and efficient extant. The author does not desire to flatter and eulogize unduly, but wishes to present facts from an impartial point of view, from the standpoint of implacable and unbribable science.

There is a disease afflicting both man and beast which to the former is the most terrible scourge that can befall him; this affliction is rightly termed "the white plague of mankind." Its victims are numbered by the thousands; they constantly fall as a burnt-offering, a holocaust upon the altar of death. The author refers to tuberculosis. One of the most potent sources of infection is the meat and milk of consumptive animals. The cow is peculiarly susceptible to the bacillus of tuberculosis. It affects entire herds and renders the meat unfit as a food. The number dying yearly through tuberculous meat and milk is appalling. Inspection in this direction is as yet imperfectly carried out.

The ritual inspection of meat as exercised by the Jews prevents a number of infected carcasses from gaining access to the butcher shop. The "shochet" scrupulously examines the interior of every animal and rejects anything bearing the stamp of suspicion. He scrutinizes the lungs of every slaughtered animal for traces of consumption; he inspects the heart and digestive organs for signs and vestiges of disease and foreign bodies respectively, and declares all diseased carcasses unsuitable for the dietary, prohibited—treife. How much prevention is exercised by means of this ritual inspection or "bedicah!" We need to be thankful for these sanitary ordinances. How much disease, misery, and suffering is thus spared to one adhering to these wise and beneficial regulations! The longevity of the Jew may partly be explained by his faithful compliance with the doctrines of hygiene and the sanitary rules promulgated by the Bible. Our moral, mental, domestic, and social purity are but the reflections of the purity of our bodies. "Clean ye shall be unto me" is the command of the Bible, and "clean ye shall be unto yourself" is the dictum of science.

The Bible also interdicts the use of cattle which have perished

of disease. As soon as an animal succumbs to disease of whatsoever kind, it becomes the harboring place of numberless and nameless low forms of animal life—to wit, microbes. But very few affections are engendered without the aid of the latter. An animal the victim of disease is an unfit article for the stomach.

The profound wisdom of the Bible becomes again apparent from the foregoing. Its ordinances aim at prevention, and an ounce of prevention is better than a pound of cure. Its precepts are in accordance with the doctrines of modern sanitation, and its regulations compatible with the dictates of hygiene. The Bible is the pioneer of the sanitary sciences of to-day.

The author is aware that this is but an incomplete exposé of a subject demanding a more painstaking and systematic elaboration; he is conscious of the shortcomings of this essay, but ventures to hope that in the near future a renewed effort will be made to give the topic more thorough consideration.

164 E. High Street.

A CASE OF EXOPHTHALMIC GOITRE.*

BY R. J. WARD, M.D., EAST BARRINGTON, N. H.

Without expecting to add anything original to your knowledge of this subject, by giving the history of a case which has been under observation for the past year, I hope to bring out a discussion which may be mutually beneficial.

Musser says: "Of the three classic symptoms, rapidity of the heart's action with palpitation, enlargement of the thyroid, and prominence of the eyes (exophthalmos), the first is the essential symptom. It is also the earliest usually. Either enlargement of the thyroid or exophthalmos may be absent for months or years, and in some instances throughout the disease.

"In addition to the above symptoms, loss of flesh and strength, impaired appetite, diarrhea, and despondency are observed. Headache and vertigo are not uncommon, and sometimes profuse sweating. A restless, nervous excitement is very common."

As for treatment, Osler says that "medicinal measures are notoriously uncertain. A combination of digitalis and iron may do good. Belladonna occasionally gives relief. Tincture of strophanthus will sometimes reduce the rapidity of the heart's action. No measures are as successful as rest in bed with ice-bag occasion-

*Read before the New Hampshire Medical Society.

ally applied over heart. Electricity has been lauded, and in some instances temporary improvement follows the use of the galvanic current."

The following case has been under observation for some time:

Patient, female, aged fifty-seven; passed menopause three to four years; mother of a large family. Husband died thirteen years ago. During the winter her family was reduced to two, and she was alone a good deal of the time.

On March 29, 1902, I was called to prescribe for a small tumor on the right side of her neck, then about the size of a silver dollar, and one-half inch thick. It appeared semisolid and attached to the trachea. No pain from tumor, but its presence worries the patient. She says she is nervous. Has attacks of palpitation on going to bed. Her sleep is restless. Pulse rate 100, temperature normal. Prescribed tincture of iodine externally, and iron, arsenic, and strychnine.

April 6. No change; discontinued iron, arsenic, and strychnine, and prescribed pot. iodide, gr. x, four times a day.

April 14. Still no change. Appetite better. At times the patient will sweat profusely without apparent cause. Pulse 100, temperature normal.

April 22. Says she "beats all over." Slightest exertion gives her palpitation. Pulse 114. Symptoms of iodism. Discontinued pot. iodide, and prescribed tincture of digitalis, m. x, every three hours, and sod. phos., drachm j p. c.

April 26. Nauseated and vomiting. Has heartburn. Pulse 86. Discontinued digitalis and prescribed sod. phos. before meals instead of after.

April 27. Pulse 86, very weak; does not want to sit up. Prescribed rest in bed. Strychnine, gr. 1/30, every five hours.

April 28. Consultation with Dr. Neal, of Rochester. Diagnosis of exophthalmic goitre approved. Tincture of digitalis m. v, and tincture of belladonna m. x, every four hours.

April 29. Pulse 63, slightly intermittent.

May 1. Pulse 63, with some intermitting. Says she "beats all through her." Is nauseated. Discontinued the digitalis and decreased belladonna to m. viij at a dose, because of dilated pupils and dry throat.

May 5. Pulse 86; is feeling better; appetite good again. Tincture of belladonna increased to m. x.

May 7. Pulse 89; still improving; despondency less.

May 10. Is quite contented in bed. Continued belladonna m. x to xij.

May 11. Sudden attack of palpitation after simple meal. Pulse 110. Prescribed tincture of digitalis, m. v.

May 12. Indigestion. Pulse 90. Prescribed dil. ac. hydrochl.

May 14. Pulse 96; nausea, with palpitation.

May 15. Vomited. Pulse 80. Urine sample: amount in twenty-four hours, 64 ounces; albumin present; sp. gr. 1025. Prescribed desiccated thyroid tablets, one tablet after meals twice a day.

May 16. Some headache and pain in precordium; pulse 90.

May 17. Nauseated greater part of the time. Cerium oxalate and bismuth before meals.

May 18. Pulse 92; nausea subsiding.

May 19. More palpitation; applied faradic electricity.

May 22. Nauseated again.

May 23. Abdominal distress, with nausea. Patient could not sleep.

May 24. Prescribed iron peptonate.

May 26. Discontinued thyroid tablet, and prescribed conct. tr. passiflora incarnata as a hypnotic.

May 27. Slept well last night. Prescribed cratægus oxyacanthus, m. xv, every six hours.

May 29. Pulse 94; better appetite. Increased cratægus oxyacanthus to m. xx.

June 9. Pulse 98; urine normal. Prescribed dormiol, 10 per cent, as a hypnotic in place of passiflora, which had failed to produce results.

June 14. Marked improvement in every way.

June 28. Still improving, but does not sleep well. Prescribed chloretone, gr. vj.

July 3. Improving; sitting up a few hours daily.

From this time patient has made slow but steady improvement. Has discontinued cathartics, hypnotics, and all direct medication, but is taking a combination of elix. kola comp., with syr. hypophosphites and iron peptonate. At present her pulse is normal, nervous symptoms have almost entirely disappeared, and she is able to attend to the usual household duties. The size of the tumor is somewhat smaller than when first seen one year ago.

Points of interest to note are the typical symptoms of exophthalmic goitre, without exophthalmos, the peculiar intoleration to tincture of digitalis in any but a most minute dose, and the value of the prolonged course of treatment with rest in bed, and with the hawthorn berries.

I cannot close this without a reference to etiology. Quoting again from Osler: "The disease is regarded by some as a neurosis, in favor of which is urged the onset after profound emotion. More recently it has been urged that the disease is one of the thyroid gland, hyperthyrea in antithesis to myxedema, athyrea."

This last is emphasized by our experience in the above case, where administration of the thyroid tablets only magnified the symptoms.

A still more interesting theory has been brought forward. A résumé of the same appeared in *American Medicine* for May of this year (1902), from which I will quote:

"The disease is attributed to the irritation of the sympathetic nerves. Whether this irritation be the result of a neurosis, some definite lesion such as compression, or is produced by some form of intoxication, may be left out of question when the treatment is considered.

"The exophthalmos is produced by forcible contraction of the cone of muscle (Müller's unstriped muscle), which covers the posterior surface of the eyeball.

"Removal of the sympathetic nerve relieves the symptoms in all cases. The hypertrophy of the thyroid gland is caused by the excessive dilatation of the thoracic and cervical sympathetic vasodilator fibers. Hyperactivity of the gland and hypersecretion are possible through permanent stimulation of the fibers of the sympathetic. The tachycardia is attributed to irritation of the sympathetic accelerator nerve of the heart. Cerebral disturbances are produced by the irritation of the fibers of the sympathetic vasoconstrictors, which produce permanent anemia of the brain.

"Granting these premises, there is one conclusion, that paralyzing the sympathetic by removing a large part of it would prevent all these pathological conditions. As for results from this operation—*i.e.,* bilateral resection of the sympathetic—63.8 per cent of recoveries are reported, 18.1 per cent of cases improved, and 18.1 per cent of failures, without a single death.

"In eleven cases operated by Jonnesco there was rapid disappearance of exophthalmos, progressive decrease in size of goitre, and disappearance of many other distressing symptoms, such as extreme nervousness, diarrhea, hyperidrosis, etc. Tachycardia disappeared sometimes very quickly, and in other cases after a few days.

"In contrast to the above favorable results without any mortality, Allen Storrs's statistics are reported of one hundred and ninety cases operated upon by partial removal of the thyroid, with

twenty-three sudden deaths following, and the occurrence of fever, dyspnea, tachycardia, vomiting, and other distressing symptoms in 40 per cent of cases."

A REPORT OF A CASE OF SEVERE ANEMIA SECONDARY TO PUERPERAL SEPSIS, ACCOMPANIED WITH MULTIPLE NEURITIS.

BY HENRY C. SANDERS, M.D., CLAREMONT, N. H.

The patient is a woman, thirty-five years old. She always had good health previous to the time of her last confinement. She has two children, one three years old; the other, eleven months old, was born June 16, 1902.

The physician who attended her at her last labor states that it was normal, but that the nurse who was employed to care for her was a dirty, ignorant, and wilful negro woman. About June 25, several days after the first physician had ceased to attend the case, a second physician was called. He found that the woman had a high fever and an offensive lochial discharge. He douched the uterus several times and gave her stimulants. The vaginal discharge ceased, and she improved for a time, but gradually she became weaker.

July 13. He asked me to see her with him, and placed her in my hands, as he was about to go away for his vacation. She was very weak and very anemic. Her complexion was sallow. She was not emaciated. There was no vaginal discharge. A soft murmur was plainly heard all over the cardiac area. Her pulse was 120, and temperature 100° F. She was unable to retain food. She was taking tincture of the chloride of iron.

July 14. She seemed weaker, and continued to vomit. One-fortieth of a grain of arsenite of potassium three times daily was ordered.

July 15. A competent nurse was obtained, and the following treatment ordered: A daily morning bath, liquid diet, nutrient enemata, and light massage with olive oil. The administration of ten minims of the tincture of chloride of iron and one-fortieth of a grain of potassium arsenitis three times daily was continued. The patient's temperature at 9 A.M. was 99.8°, and at 12 P.M. 102.8°. There was but slight variation in the pulse and the respiration rates, the former being 100 at 9 A.M., and 110 at 12 P.M. She vomited a little during the day, but retained the nutrient enemata well.

July 16. She vomited twice about half a pint of a dark-green liquid. Her temperature did not rise above 100° F. The pulse rate was 116.

July 17. Examination of the urine showed that it was very acid and contained a slight amount of albumin. She had an involuntary defecation.

July 18. Defecation and micturition both occurred involuntarily. She seemed to retain her mental faculties, although very apathetic. One-thirtieth of a grain of strychnine sulphate every four hours was ordered. Basham's mixture was substituted for the tincture of the chloride of iron, and Fowler's solution for the arsenite of potassium. Her temperature was normal at 9 A.M., but rose to 103.4° at 12 P.M.

July 19. An examination of the blood showed 20 per cent of hemoglobin, according to the Tallquist scale. She was delirious at times during the night.

July 20. After eating she complained of pain, and an examination showed considerable tympanites. She was catheterized, and eighteen ounces of urine was obtained. One-fifth of a grain of calomel for ten doses was ordered.

On July 21 her condition was improved. She was a little stronger. The tympanites had disappeared. A blood examination showed 800,000 red blood cells and 14,600 leucocytes per cubic millimeter.

The cardiac murmur was heard as before. There was an area of dulness on percussion, extending from the clavicle of the right side to the fifth rib. The vesicular murmur was not heard over this area. Her condition remained the same from the 21st to the 25th. Her urine was acid. She was delirious at times, and talked continually. The temperature range was below 101°F. She had a slight leucorrhea for a day or two.

July 26. The catheterization was stopped. The vomiting stopped, and the rectal feeding was discontinued.

By the 28th the involuntary defecation stopped. She complained of pain just below the costal margin, on the right side, and two inches from the median line. Examination of the abdomen was negative.

She began to take solid food on the 29th. A report was received from the laboratory of hygiene that the Widal test was negative. At this date she was much emaciated and very weak. Her complexion was muddy. The emaciation was less marked in the face than in the trunk, arms, and legs. The outlines of the metacarpal bones showed very plainly in the palms. The muscles

of the legs were very small and flabby. The Tallquist test showed 30 per cent hemoglobin.

On August 5, Vallet's mass was substituted for the Basham's mixture.

She began to sit up August 7. A blood examination on August 10 showed 40 per cent hemoglobin and 1,888,000 red blood-corpuscles. The administration of Fowler's solution was stopped. Blaud's pill was given in place of Vallet's mass. She was given a bitter tonic, consisting of tincture of cardamom compound, tincture of nux vomica, and tincture of gentian compound, and her strychnine sulphate stopped. She steadily improved until August 23, when her temperature, which had been normal for nearly two weeks, suddenly went up to 102.8°. It returned to the normal the next day.

A blood count on August 26 showed hemoglobin 50 per cent; red blood cells, 1,900,000 per cubic millimeter.

September 1. The administration of Fowler's solution was begun again. She stood alone September 2. A blood examination September 6 showed hemoglobin 60 per cent; red blood cells, 2,238,000. She was able to take two steps alone, but dragged her feet.

She menstruated September 7. This was accompanied by a sharp rise in temperature to 102.8° F., with a pulse rate of 140. She was quite weak for a couple of days.

September 10. She walked about thirty feet with assistance. The administration of Fowler's solution was stopped September 11.

September 12. A careful examination showed a complete loss of both knee-jerks, bilateral foot-drop, and slight anesthesia over the right internal malleolus.

September 13. She began to walk with crutches. A blood examination showed hemoglobin 60 per cent, and 3,670,000 red blood cells.

By September 28 she had gained very much in strength and flesh, and was able to walk with her crutches. There was still loss of the knee-jerks. There was no ankle clonus. The sensation of pain was diminished in both legs. The foot-drop on the right side showed considerable improvement, but that on the left side was still complete.

An examination October 26 showed the following condition: Her station was poor. She was unable to stand with her heels together, but could stand well with her feet wide apart. She was able to walk without a cane, but could not turn a corner without

it. She moved her right leg naturally when she walked, but swung the left leg outward without raising the foot. The foot-drop of the right leg had disappeared, but that of the left leg persisted. The knee-jerks were absent. The plantar reflex was vigorous on the right side, but absent on the left. There was partial anesthesia about the left internal malleolus. The temperature sense was not so acute over the skin of the left leg, and there was some analgesia. There was but little disturbance of the sensation of the right leg. Color was good, and she felt well.

By December 16 she was able to walk without a cane. The knee-jerks were absent, and the foot-drop persisted on the left side.

I saw her March 24, 1903, on account of a cold. She had done her own work since December 31. She had been strong and well all winter. She could walk well. She could extend both feet. Her station was good. The knee-jerks were absent. The muscles of the leg were large and firm. Her color was good. She had apparently made a perfect recovery.

She never had a girdle sensation, and never complained of pain in the legs.

The First French Congress of Climatotherapy and Hygiene of Towns will be held at Nice from April 4 to 9, 1904. Professor Chantemesse is president; the vice-presidents are Drs. Renaut of Lyons, Grasset of Montpellier, Calmette of Lille, and Balestre of Nice. The discussions will bear on five questions: (1) "The climate of the French Mediterranean coast." (2) "Adaptation of the individual to climate." (3) "Influence of the French Mediterranean coast climate on tuberculosis and tuberculous patients: (*a*) Clinical and critical discussions on the special conditions required in order to benefit by this influence; (*b*) treatment of such patients at their home; (*c*) treatment of such patients under supervision: sanatoria for patients in easy circumstances; (*d*) establishments for the treatment of poor patients suffering from scrofula or pulmonary tuberculosis." (4) "The influence of climate of the French Mediterranean coast on rheumatism and on those subject to rheumatism." (5) "Disinfection of towns." Reduced rates on the railways will be granted to members of the congress and their families. The hotel prices at Nice will also be reduced in their favor. Particulars may be obtained from Dr. Herard de Besse, secretary-general of the Congress, Beau-sur-Mer, France.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

THE CURE OF DIABETES.

There has for long been simmering in the minds of experimentalists a conviction that diabetes should be included in the list of curable diseases. It has been thought that if the glycolytic ferment could be brought into practical control, it would offer the means of overcoming the glycosuria which results from the suppression of its activity in the organism. Nearly four years ago Blumenthal tried to cure diabetes by means of subcutaneous injections of pancreatic juice. The results were negative, for the reason, as the experimenter believed, that the quantity which could be injected was too small. Since then efforts have been made to isolate the glycolytic ferment from organic secretions. That which is obtained from the pancreatic juice is not soluble in water, and if this ferment is anywhere to be found soluble in water it is probably in the fibrin.

Although Blumenthal's efforts to secure this glycolytic ferment have hitherto been unsuccessful, he seems to have established a base from which much investigation can proceed. When we have secured a ferment capable of counteracting glycosuria the treatment of diabetes will be on a scientific basis. The hope of this is not ill-founded. It is now known that this ferment is not only contained in the pancreas, but likewise in the liver, the spleen, and lymphatic glands. It is known that it does not act directly, but needs the intervention of a second enzyme for its activity. Its physiology resembles the processes of immunity. There probably exists a specific body holding the glycogen or the sugar represented by the glycolytic ferment, and there may exist a second enzyme body which acts as its complement, and this exists specifically in the pancreas and in minor quantities in muscle secretion. Al-

though the pancreas appears to be the real source of the glycolytic function, it is more or less the property of the entire organism. If we assume that for some reason glycolysis does not take place through functional disability of the pancreas, it would certainly not be beyond the capacity of the art and science of medicine to introduce the opportune ferment. So that diabetes, which has been the synonym of an incurable malady from a scientific standpoint, can no longer be regarded as such. It is sure sooner or later to yield the secrets of its baleful potency to the indefatigable efforts of the investigator.

EDITORIAL NOTES.

The Psychology of Occupation.

After many years of inquiry an Italian savant, Ferriani, has constructed a scale showing the varying degrees of professional jealousy that exist in the different professions. He finds that among architects there exists the least. Following them come clergymen, lawyers, and military men. After these he places professors of science and literature, journalists, authors, doctors, and actors. From his classification it would seem that in only one other profession does jealousy exist to the extent that it does in medicine. It is indeed unpleasant to think that this investigator is right, but candor compels us to acknowledge to ourselves that we are a jealous lot. The average medical man is a good fellow among his colleagues until he commences to reach the top, and then he is immediately looked on with jealousy, and many mean and vicious remarks are made about him which would have been left unsaid had he never risen above mediocrity.

The Prophylaxis of Venereal Diseases.

The immense amount of venereal disease that exists in this country certainly calls for some strenuous efforts for its suppression. The ravages caused by these affections would seem to warrant that they be included by the state among reportable diseases. This with the segregation of prostitutes and their regular examination by physicians, together with circulars of instruction in regard to the dangers of venereal diseases distributed to prostitutes, might help to mitigate the evil. Such procedures might save at least a small proportion of the youth of the land.

This subject has been discussed at length at many medical gatherings, and arguments have been put forth for and against these suggestions. The fact remains, however, that as long as prostitution exists there will also be disease as its accompaniment, and any measures that will tend to lessen it are to be commended.

Successful Replacing of a Severed Finger.

The recent successful transplanting of an ear which was so widely written about in the press of the country shows that it is quite within the bounds of plastic surgery to restore other members of the human frame. A correspondent of an English contemporary relates the case of a man sixty years of age who during the killing of a pig had his index-finger bitten completely off through the middle phalanx by the animal. The finger after having lain in the man's pocket for some hours was washed, and the two ends joined by strapping and fixed on splints. In fourteen days the circulation was restored, union was complete, and the finger with the exception of being insensitive was as good and useful as it ever was.

International Congresses Limited to Medical Men.

Resolutions were recently passed by the National Committee for Great Britain to the effect that in the future international medical congresses shall be limited to physicians who apply for membership. The national committees, however, will allow scientists whose names are presented to become members. This is a step in the right direction, for much dissatisfaction was caused at the last congress held in Madrid on account of the meetings being open to any one who chose to attend.

Discontinuance of the Indian Medical Record.

We note with regret that this journal, which for over a quarter of a century has been one of the leading Indian journals, is to be discontinued. The executors of Dr. J. R. Wallace, its late editor, announce that this step is necessary, as they find it impossible to carry on the work in the manner it had been done during the life of its editor.

ITEMS AND NOTES.

Two deaths from plague occurred in San Francisco in January.

It is reported that a serious epidemic of typhoid fever prevails at Leadville.

The first annual congress of the Anti-Charlatan Society of Germany was held at Berlin January 14.

The annual meeting of the American Medical Association this year is to be held in Atlantic City from June 7 to 10.

Stanford University is just recovering from an epidemic of diphtheria that broke out among the students early in December.

The Baltimore city sewerage bill was introduced into the legislature January 20. It provides $10,000,000 for the construction of the system.

The gold medal for scientific researches has been awarded to Professor Ehrlich of the Serotherapeutic Institute of Frankfort-on-the-Main by the imperial government of Prussia.

Dr. Francis A. Harris, medical examiner for Boston, suggests as a method of inflicting the death penalty the administration of carbomonoxide to the criminal already in a narcotic sleep.

The Seventh International Congress of Otology will meet at Bordeaux, France, August 1 to 4, 1904, under the patronage of the Minister of Public Instruction, the official languages being French, German, and Italian.

An antimalaria league has been formed in Algeria. Its object is to promote the adoption of modern prophylactic measures, and to use every available means of combating the scourge. The conduct of the campaign will be under the direction of Professors Moreau and Soulie.

A resident of Chicago has sued a physician of that city for $25,000 damages, alleging that the doctor burned his face with the *x*-rays. He says that before treatment he had a heavy mustache and beard, and that now the beard will grow on only one side of his face.—*Exchange.*

The Taylor Memorial Hospital at Pao-Ting-Fu, China, erected by the class of '82 of Princeton in memory of G. Yardley Taylor, who was killed in the "Boxer" uprising in 1900, has been entirely completed and is now ready for the reception of patients. The building covers a lot 54x28 feet, and is three stories in height.

Prof. Karl Schleich, of Berlin, has received from the University of Würzburg a medal and a 1000 mark prize for the discovery of a method of making surgical operations painless by what he calls the "Infiltrationsanaesthesie." This is the well known "Schleich's fluid," used for the purpose of producing local anesthesia.—*Exchange.*

Dr. Ashbel P. Grinnell, of Burlington, Vt., former dean of the medical faculty of the University of Vermont, who was arrested some time ago at the instance of a man who had been swindled and took the physician for the swindler, has recovered damages in the sum of $12,000. Mrs. Grinnell, who was arrested along with the doctor, will bring a similar suit.—*New York Medical Journal.*

The United States Public Health and Marine Hospital Service is said to have begun actively to prepare for the Panama canal campaign. Physicians are to receive special training, and under the supervision of experts will endeavor to prevent much of the sickness that is liable to occur among the workmen on the isthmus. The headquarters will be in a large hospital to be erected at Colon. —*Exchange.*

Victorien Sardou it seems was a medical student at one time, and relates that he and his mates made a special study of hypnotism and hysteria long before Charcot. He believes that the phenomena of hypnotism and hysteria explain all the magic and witchcraft of the ages. His play, "La Sorciere," in which Sarah Bernhardt is starring at present, is based on these memories of his days as a medical student.—*Exchange.*

At a recent meeting of the Academy of Sciences in Paris, Dr. Roux of the Pasteur Institute presented a paper detailing the results of exposing mice continuously to the action of radium. He hung a tube of radium in a cage containing mice, and after twenty days the animals lost their fur, which subsequently came out again, but was white. Exposure for a still longer period resulted in the production of a general muscular paralysis.—*Exchange.*

A PRESS despatch from St. Petersburg says that the chief of the Bacteriological Laboratory of the Imperial Institute of Experimental Medicine died of the plague January 20. He became ill January 16 after an inoculation with living plague cultures, and repeated injections of antiplague serum were unavailing. All who had been in contact with him have been treated with antiplague serum, and the staff of the laboratory, which is situated at Fort Alexander on a small island, has been isolated.—*Exchange.*

ONE result of the war between Japan and Russia is that the world's supply of camphor has been cut off, and will probably remain so for an indefinite period. Practically the entire supply comes from Japan and Formosa, and about six weeks ago the Japanese government placed an embargo on its shipment. The result has been a sharp advance in price, and while the scarcity has not yet been felt to any extent, it undoubtedly will be as soon as the period of greatest consumption begins in April. The reason for the embargo by the Japanese government is that camphor is one of the necessary ingredients in the manufacture of smokeless powder.—*Medical Record.*

PLANS for the enlargement of the medical department of the University of Chicago will involve the addition of three new clinical departments—medicine, surgery, and obstetrics; the erection of new laboratories on Marshfield, opposite the Hull biological laboratories, the provision of a temporary dispensary near the university; the provision at the earliest date possible of five hospitals for medicine, surgery, obstetrics, diseases of children, and contagious diseases, to cost with endowment $1,000,000 each; the raising by Rush Medical College of $1,000,000; the completion of the group of buildings, of which the Senn Memorial is the first part—cost $350,000; the organization of a school of dentistry and a nurses' training school.—*Medical Record.*

IT is not generally known, says *American Medicine,* that the work of Dr. Robert Fletcher, the editor of the lately revived *Index Medicus,* is entirely a work of love, and has been for many years. Dr. Fletcher has not received one dollar of compensation for all his editorial work, which involves the personal reading of the proofs three times over, a labor which only those who have dealt with the unusual foreign languages represented in the *Index Medicus* can appreciate. A number of his friends and admirers have combined to have his portrait presented to the library of the Surgeon-General's office, where in the scene of his labors it will

always remind later generations of his splendid work. A committee has been appointed which is doing active work to secure funds for this purpose. The fund is not yet complete, and any who feel disposed may contribute thereto.

Cornell University Medical College has inaugurated special instructions and lectures by some of the subordinate professors and assistants, who are conducting more or less specialized lines of research. In addition these lectures will present summaries as well as detailed knowledge of all the advances made in these different branches. As illustrations may be mentioned, in the department of general surgery, Professor Kammerer on "Intestinal Obstruction," and Prof. A. B. Johnson on "The Surgical Disorders of the Breast;" in general medicine Dr. Conner on "The Ductless Glands," and Dr. Camac on "The Practical Aspects of Infection and Immunity." These lectures will be delivered before the fourth- and third-year classes of the college. Some of the subjects, however, are of such general interest that invitations will be sent to all members of the faculty and practitioners who may be interested.—*Journal of the American Medical Association.*

The Prussian authorities are planning an institution in connection with the public hospitals in cities, which is to afford graduate instruction and train physicians in specialties. The city of Dusseldorf is building a new public hospital, and arrangements are being made for the new "Akademie für praktische Medizin" to be connected with it. It will have facilities for instruction in internal medicine, surgery, obstetrics, infectious diseases, and a fifth department devoted to pathologic anatomy, etc. There will be subdepartments for eye, ear, nose, and throat work, for children's diseases, cutaneous and nervous affections, and treatment of accidents. Physicians who wish to take up a specialty will be installed as assistants in the special departments, and after serving a certain number of years will be given a certificate as to their proficiency in their specialty. The training of nurses for the sick is also another task of the academy, with the holding of free graduate courses for all physicians and instruction of the public in matters of hygiene, but the principal purpose for which it is organized is to perfect the education of graduates from the medical colleges, who are not allowed to practice until they have served a year in some hospital or allied official institution.—*Journal of the American Medical Association.*

NEW PUBLICATIONS.

SOCIAL DISEASES AND MARRIAGE.

The object of this book is to set forth the dangers introduced by venereal diseases into marriage, and to indicate measures of individual or public initiation for their prevention and suppression. There has of recent years been no book which has specifically devoted itself to the discussion of this theme. When Fournier's book was written the gonococcus of Neisser had not been discovered, so its rôle in the dissemination of venereal disease could not be discussed. Dr. Morrow's book covers a wide range of subjects. The numerous phases of such a problem as that of gonorrhea and marriage are discussed in fifteen chapters. Syphilis and marriage is fully commented upon in seventeen chapters, and the concluding part of the work deals with social prophylaxes.

The author makes a strong plea for a better protection to the race from the dire effects of venereal disease, and his confidence seems highest in the ameliorating influences of personal propagandism in combating the grave dangers to which the body social is exposed. Physicians will be especially interested in this work, which is full of suggestive ideas.

Social Diseases and Marriage: Social Prophylaxes. By Prince A. Morrow, A.M., M.D., Emeritus Professor of Genito-urinary Surgery in the University of New York. New York and Philadelphia: Lea Brothers & Co., 1904.

THE PATHOGENIC MICROBES.

This is an epitome in very conventional form of all that is known concerning the pathogenic microbes, and the rôle they play in the disturbances of the human economy. It is very intelligently written, and is well worthy of translation. The whole philosophy of bacteriological doctrine is exemplified in this work in an attractive way.

The Pathogenic Microbes. By M. Le Dr. P. Jousset, Physician to the Hospital St. Jacques, Paris. Authorized Translation by Horace P. Holmes, M.D. 192 pages; cloth, $1.00; postage, 8 cents. Philadelphia: Boericke & Tafel, 1903.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Surgical Physiology of the Lymphatic System.

C. H. Mayo (*St. Paul Medical Journal,* February, 1904) says a study of the lymphatic system readily explains many normal physiological as well as pathological processes. The subject is deservedly receiving more attention from surgeons, who now recognize that aside from acting as the general absorbent system, it is constantly engaged in maintaining nutrition as well as the defense against pathological processes.

All tissues are provided with lymph vessels and glands in direct proportion to their exposure, activity, and necessity for repair.

The tissues of the body are constantly bathed in lymph, which fluid, similar to and derived from the blood plasma, must all pass through the lymph vessels and glands. In the glands the lymph is exposed to the direct action of the leucocytes, which are there found in great abundance. It is in the glands that infection is checked and destroyed, if it does not overpower the gland and develop local growth. An enlarged gland is an evidence of a local struggle or defeat. The lymph system undoubtedly performs a great function in draining the ductless glands. Considering the lymph supply of certain regions, we find that the brain is deficient in lymphatics in its structure, the arachnoid serving this purpose upon its surface. Hemorrhages into its structure become cysts from lack of absorption, and infections in its substance cause but little temperature or general disturbance except from pressure. The liver and kidneys show the same condition in a less marked degree. The lungs, rich in lymphatics, give constant temperature from infectious diseases. Chills usually signify the direct delivery of accumulations of infection into a vein. In certain diseases resulting from a loss of equilibrium between the production and absorption of fluids, we substitute one set of lymphatics for another by operation, as in glaucoma and hydrocephalus.

When we consider lymphatic conditions in connection with surgical work, we find that there is a real principle involved in drainage, whether it be internal or external.

Chronic Adhesive Sclerosing Peritonitis.

H. G. Wetherill (*Medical Record*, Jan. 23, 1904) presents the following points in regard to this affection: (1) The rareness of the disease. (2) Failure to recognize it generally and to describe it fully on this continent, though it has been long well known abroad. (3) The pathognomonic sign, namely, inability to unite the shrinking peritoneum when once divided during the course of the operation, which so far as the writer is aware he was the first to observe and describe. (4) The essential chronicity of the disease, as indicated by long-standing symptoms otherwise unexplained, and by the shrinking and retraction of the peritoneum at the first operation, sixteen months prior to the patient's death, which proved the previous existence of the malady, and that it was not directly or indirectly the result of the operation. (5) The great importance of covering all denuded surfaces when, before or during the operation, chronic adhesive sclerosing peritonitis is diagnosed. (6) The characteristic subperitoneal connective tissue hyperplasia, which is the pathological feature of the disease. (7) The shrinking or contraction of the peritoneum caused by it, the clinical feature. (8) The possible significance of a somewhat similar pathological process taking place in the skin, coincident with unusual gastrointestinal symptoms otherwise unaccounted for. (9) The danger of serious sequelæ incident to its surgical treatment. (10) The possibility of accomplishing much through medicinal measures, when the etiology of the disease is better understood. Potassium iodide and inunctions of mercury are worthy of careful consideration and trial in any suspected case of plastic peritoneal sclerosis.

Surgical Hints.

The February issue of the *International Journal of Surgery* contains the following hints:

The bougie à boule is by far the most valuable instrument we possess in the investigation of stricture, but it is well to remember that a solid sound can often be passed of larger caliber than the bougie.

Every wound in which the bones of the skull are affected through penetration from outside is a compound fracture, as far as its dangers are concerned, and must be treated with the same extreme carefulness as compound fractures elsewhere.

In cellulitis of the scalp long incisions are preferable to short

ones. It is well to recognize that the condition is a dangerous one, and that the true extent of the trouble can hardly be determined without a thorough shaving of the scalp, which should at any rate precede any incisions made in this region.

In all accidents and traumatisms it is well to inquire at once into the existence of any diathesis. An investigation revealing a previous condition of diabetes, syphilis, or tuberculosis, or of renal, gouty, or rheumatismal disturbances, greatly affects both treatment and prognosis. If we await the time when such complications become manifest before we discover their possibility we waste precious hours.

Solitary or Fused Kidney.

W. A. Dennis (*New York Medical Journal,* Jan. 30, 1904) says that according to available statistics complete absence or extreme atrophy of one kidney is found once in 2650 cases; horseshoe kidney once in 1000 cases; and the fused kidney exclusive of the horseshoe variety once in about 16,000 cases.

The great majority of fused kidneys are misplaced, being usually in the median line and lower than normal.

The complete fused kidney, with normal position and approximately normal outline, is the rarest form of all.

Cystoscopic examination, with catheterization of the uterus, will prevent the error of removing the only organ present in all cases, except in cases of fusion.

Horseshoe and irregular fused kidneys may be recognized on exposure by their abnormal shape or position, or by both.

The single remaining and rarest variety, that with normal outline and position, can probably always be at least suspected and left, if the ureter and pelvis are found shifted to the anterior surface.

A Contribution to the Surgery of Cerebral Tumors.

G. Woolsey (*American Journal of the Medical Sciences,* December, 1903) says that the sphere of operations for cerebral tumors may be and has been extended to those parts of the cortex where the tumors are accessible and localizable—*i.e.,* to the prefrontal, parietal, and occipital regions, in addition to the motor area. The prognosis, both immediate and remote, is as good or even better than in operations for malignant growths in some

other locations. This prognosis has improved with the improvements in localization and operative technique, and with the limitation of the radical operation to cases accurately localized. The palliative operation is strongly indicated to relieve symptoms where localization cannot be accurately made or the tumor cannot be removed. The exploratory operation is contraindicated. Practically all circumscribed growths of moderate size are suitable for operation. The osteoplastic method should be employed, and the most rapid and perfect technique adopted which the circumstances allow.

Hepatic Drainage in Infection of the Biliary Tracts.

John B. Deaver (*New York Medical Journal,* Jan. 23, 1904) says that suppurative cholangitis should be operated on before the infection injures the liver cells and before the retained bile has a chance to react injuriously upon the general organism. The presence or absence of gall-stones is of no moment in deciding for early operation, though they are usually present.

Cholecystostomy is the operation of choice where the lesion is acute and the gall-bladder has been functionating up to the time of infection.

Excision of the gall-bladder can safely be performed in chronic calculous cholecystitis with an obstructed cystic duct.

Hepatic drainage must be provided for in all cases where infection is present or suspected—either through the gall-bladder or by opening the common duct or the hepatic duct.

Abscess of the liver is prevented and pancreatitis relieved by prompt drainage of infected bile-ducts.

MEDICINE.

Pathology of Inebriety.

In all cases of inebriety there are, according to T. D. Crothers (*Journal of the American Medical Association,* Jan. 30, 1904) marked changes in the capillary and vascular system of the brain. The walls of the vessels show fibrinous deposits and sclerosis. The nerve cells and dendrites are altered and retracted, in some cases permanently destroyed; in all inebriates shrunken and disintegrated states exist.

The liver, kidneys, and heart show diminution or enlargement with fibrous and fatty deposits. Both the organic and functional activity of the organ are changed and sclerotic states are present. Conditions of starvation and poisoning exist in all cases.

Pathologic changes are apparent in the paralysis of the sense organs and the higher psychic functions of the brain. These conditions are so common following the use of alcohol, sometimes in its moderate use, but always when taken in excess, as to constitute a pathology that is traced directly to alcohol as the most prominent cause.

The recent researches into the chemicophysiologic action of alcohol on the heart, blood-vessels, cells, and nerve fibers show a paralyzing and eroding action that cannot be mistaken for any other cause.

The final conclusion is that the peculiar brain and nerve wreckage so commonly seen in persons using alcohol is due to the specific cause, alcohol, following a uniform line of degeneration which is traceable with more or less exactness.

Vulvovaginitis in Infants and Children.

Berkenheim (*Dietskaia Medicina,* No. 3, 1903; *British Medical Journal,* Oct. 24, 1903) observed cases of vulvovaginitis in children in a Moscow hospital for ten years. He concludes that the etiology of this disease is the same in childhood as in adults. In seventy-five per cent of the cases there is gonorrheal infection. The reason why vulvovaginitis is so much milder in children seems clear: the vagina before puberty is short, there are few rugæ which might conceal and foster the infective matter, the vessels of the mucosa are ill-developed, and there are but few glands. Menstruation, pregnancy, and parturition, as well as coitus—factors prejudicial to the cure of vulvovaginitis—are absent in most cases. Vulvovaginitis is most common in very little girls, often well nourished and in good health; its average duration under treatment is 7½ weeks; one-third of all cases become chronic. All the well known local complications were observed in the Moscow hospital, and also conjunctivitis, peritonitis, and arthritis. The cases of peritoneal inflammation were mild, as were those of arthritis, usually limited to one joint. Rest and general treatment are necessary. Berkenheim found that no medicament used for injections had any specific action; indeed, permanganate of potash, protargol, ichthyol, sulphate of zinc, and

boracic acid were found by him to have no influence in shortening the course of the malady. The pus must be removed, and for this purpose free douching is necessary. A special basin and napkin must be reserved for each patient.

The Blood in Acute Leukemia.

There are, according to L. V. Hamman (*American Medicine,* Jan. 23, 1904), three types of leukemia, each associated with a typical clinical picture. Between the blood pictures and the clinical pictures there is every grade of transition. Leukemia running an acute course is nearly always associated with the blood picture described by Fraenkel. When the blood picture described by Fraenkel is observed it is almost certain that the case will run an acute course. The presence of either of the other typical blood pictures is an assurance—not absolute, however—that the disease will run a chronic course.

Mouth Murmurs.

Fisher (*Münch. med. Wochenschrift,* No. 19, 1903) understands these sounds to be synchronous with the arterial pulsation—that is, systolic. They are usually heard during expiration, and very seldom during the respiratory pause. He finds it best to examine the patient with the ear close to the open mouth and the patient in the sitting posture. These sounds are never heard in the healthy individual. In these cases the origin of the aorta is higher than usual, due to enlargement of the heart or to dislocation of the normal heart. Tumors, exudates, and aneurisms may also cause these sounds. In the original article the author cites many cases.

Intermittent Hydrops.

Wiesinger (*Deutsche med. Wochenschrift,* No. 35, 1903) reports a case of a man otherwise in good health who every ten days for the last five years suffered from a swelling of the knee-joints. He injected 10 cubic centimeters of iodoform-glycerin into the cavity of the knee-joint during these attacks, and after a slight reaction and moderated massage this condition did not recur. This condition was evidently due to a local disturbance from its behavior in responding to the treatment.

Infusoria in the Gastrointestinal Tract.

Cohnheim (*Deutsche med. Wochenschrift,* No. 13, 1903) after thoroughly reviewing the literature adds to his article a number of original observations. He considers the occurrence of infusoria in the esophagus and the stomach as pathognomonic of carcinoma; their presence in the intestinal tract he believes to be significant of gastritis and intestinal disorders. If these conditions are cured encysted individuals may be passed for a long time. Infusoria are not pathogenic to the human, and therefore we should not endeavor to treat them with specific remedies.

THERAPEUTICS.

The Treatment of Puerperal Septic Infection.

Chas. Jewett (*Brooklyn Medical Journal,* January, 1904) says the diagnosis must exclude non-septic infectious diseases and other than pelvic sources of infection. It should also be known whether the vagina or the uterus is the seat of the infectious focus. In nearly all cases the primary seat of infection is the uterine cavity.

Membranous patches in the vagina may be treated with applications of tincture of iodine or of strong carbolic acid, followed immediately with alcohol, and repeated two or three times daily; or may be dealt with after the method of Webster, by vaginal packs of glycerinated formalin.

When the uterine cavity is the seat of infection the uterus should be explored digitally to learn whether it contains fragments of placenta or of membranes or blood-clots.

Necrotic material should be removed, best with the gloved finger and dressing forceps. Débris may be swept out with a soft cotton ball held in dressing forceps, or by irrigating with normal salt solution. The foregoing manipulations should be conducted on a table with due aseptic care.

The dull curette is indorsed by many authorities, but results are better without even dull curetting.

Repeated curetting or douching is especially injurious.

When the uterus is empty no local measures are indicated. It should be remembered that about eighty per cent of streptococcic infections of the endometrium recover without treatment. On the other hand, most virulent infections will end fatally whatever treatment is employed. The temptation is to do too much.

The systematic treatment consists in bracing the resisting powers and in promoting elimination. For the former purpose strychnine and alcohol are the principal measures. Elimination is favored by one or two bowel evacuations daily, and by diuresis. Plenty of water should be introduced into the circulation by the stomach by enteroclysis, or if necessary by hypodermoclysis. The addition of acetate of sodium to the fluid injected adds to the diuretic effect.

Antipyresis when required may be effected by sponging or by wet sheet packs with water at a tepid or neutral temperature. My practice is to wet the double gauze sheet at short intervals with water at body temperature. This involves no shock, is more agreeable to the patient, and more successfully controls the pyrexia.

Pus collections should be detached promptly and be dealt with as in other conditions.

Particular attention should be paid to the regulation of the feeding.

Under this simple plan of treatment the prevailing mortality may be very greatly diminished.

Sterile Water Anesthesia in the Office Treatment of Rectal Diseases.

S. G. Gant (*New York Medical Journal,* Jan. 23, 1904) advocates the use of sterile water as a local anesthetic in the office treatment of rectal diseases. The writer says that effective local anesthesia is so quickly and easily obtained by this method that in a majority of rectal cases there is no necessity of requiring a patient to submit to the annoyance and expense of entering a hospital and undergoing general anesthesia. For this reason it appeals strongly to the better class of patients.

The anesthesia instantly follows the injection of water sufficient to distend tightly the tissues to be incised or removed. This enables the operator to work quickly, and as the patient is not confined to the hospital during the after-treatment, but can come to the office to be dressed, it economizes the surgeon's time and labor.

No annoying or dangerous complications have been observed during or following the injection of the amount of water necessary to produce anesthesia.

In the writer's experience the pain and bleeding following this method of local anesthetization have been less than when medicinal local anesthetics have been used.

It eliminates the danger to life from heart, lung, and kidney complications, which are always to be feared during and following the administration of ether or chloroform, and it avoids the increased pain and hemorrhage due to straining and vomiting after general anesthesia.

The only requirements are a hypodermic syringe, a suitable needle, and boiled water, and these are usually at hand.

The radical treatment of hemorrhoids can be so easily carried out under this method in the physician's office, with so little danger and inconvenience to the patient, that it should relegate to oblivion the much-vaunted injection treatment, which is so dangerous and uncertain.

The Use of Boracic Acid in Medicine.

Merkel (*Münchener med. Wochenschrift,* No. 3) in an article whether meats preserved with boracic acid may be used without harm, reports his experiences with the internal administration of boracic acid. For years he has used its salts combined with other diuretic remedies, but was obliged to stop them because of digestive disturbances. He then used boracic acid alone in doses of 1 to 2 grammes, dissolved in a liter of water, the whole to be given in the course of twenty-four hours. In a large number of cases he obtained good diuresis, but owing to the digestive disturbances had to stop its administration.

Proctocolitis, with Special Reference to Treatment.

W. M. Beach (*Pennsylvania Medical Journal,* January, 1904) says that proctocolitis is a disease that attacks old and young. The writer says his experience has been that it is more general in the male sex. The essential symptoms are pain, constipation, and membranes. In diagnosis, appendicitis, malignant and pelvic diseases are to be eliminated. Reflex symptoms must be recognized when they occur, as neuralgia, lithemia, vertigo, dyspepsia, cardiac irritation, asthma, and neurasthenia. The history of acute dysentery of bacillary origin and the neuroarthritic diathesis must

be reckoned with as causal factors. Ptosis of the abdominal viscera, appendicitis, and tumors may be complications in severe cases. The diet should consist, for the most part, of soft foods, eliminating green vegetables, fruits, fats, and alcohol. Milk is the standard aliment. Certain medicines are of use as indicated, but should be selected and used with great care. With the above regimen the most efficient procedure is to wash out the colon.

The Use of Hard and Soft Paraffin for Subcutaneous Injections.

Albert E. Stein (*Medical Record,* Jan. 23, 1904) sums up his conclusions as follows:

(1) The method of paraffin injections is mainly adopted for the correction of small and superficial deformities, such that do not require the injection of large amounts of paraffin. (2) The paraffin to be used should have a melting point of about 41° C. Harder paraffin should only be injected to fill up existing cavities with solid walls. In all other cases it is contraindicated, on account of the greater danger of producing embolism. (3) The mass should never be injected in a fluid form, but is to be used in the form of a paste. (4) There are no sound practical nor theoretical reasons to justify our giving up the use of the soft in favor of the hard paraffin. (5) It is not advisable to inject more than three cubic centimeters at one sitting. (6) The injected mass is not absorbed but encapsulated, grown through with connective tissue, so that the result in all cases is a lasting one. (7) The edematous swelling immediately following the injection generally disappears in a few days.

Peritoneal Saline Infusions in Abdominal Operations.

J. G. Clark (*Journal of the American Medical Association,* Jan. 30, 1904) says the use of saline solution does not increase but unquestionably minimizes the dangers of pyogenic infection.

In addition to the reduction of mortality, the convalescence of the patient is rendered infinitely more comfortable and satisfactory through the reduction of thirst, the increase in the urinary excretion, and the minimizing of vesical irritation.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Sympathetic Ophthalmia.

Dr. A. Maitland Ramsey (*Annals of Ophthalmology*, January, 1904) lays down the following rules in regard to enucleating injured optics:

1. Enucleate at once when the injury is so severe that the exciting eye is destroyed hopelessly from the beginning.

2. Enucleate at once on the slightest sign of sympathetic irritation should the vision of the exciting eye only equal a perception of light and darkness.

3. Enucleate at once if a foreign body is present in, and cannot be removed from, the exciting eye.

4. Enucleate at once when an injured eye is blind and suffering from recurrent attacks of acute inflammation, or when it is tender or irritable as a result of the onset of degenerative changes —*e.g.*, ossification of the choroid.

5. Do not enucleate when there is still sight in the injured eye, and when there is no sign of sympathetic disturbance in its fellow.

6. Do not enucleate when sympathetic inflammation is in progress and there is still sight in the injured eye, for under these circumstances the removal of the "excitor" will have no beneficial influence, and the probability is that in the end all the sight the patient will possess will be in the primarily injured eye.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,

Member of the American Dermatological Association.

Recent Investigations on the Protozoa as Causes of Disease.

In an editorial in the *Journal of Cutaneous Diseases* for February, 1904, Dr. John T. Bowen, of Boston, Mass., says that during the last two years investigations on the etiology of smallpox and vaccinia have been carried on in the Harvard Medical School under the direction of Professor Councilman, which have added greatly to our knowledge of these diseases. Opportunity

for the study of smallpox was given by the small epidemic which appeared in Boston in 1901 and 1902. Fifty-four autopsies were made and the lesions thoroughly investigated. At the same time the disease was studied experimentally in a number of animals, including monkeys. From these investigations it has been shown that in smallpox at the time of the earliest manifestations of the eruption there appear in the cells of the rete mucosum small structureless bodies, the smallest of them from 0.5 to 1 micron in diameter. These increase in size, and with the increase in size structural differentiation appears. Small points which take the chromatin stain first appear, and this is followed by a differentiation of the body into two substances which stain unequally. One part of these is allied to chromatin, and the other takes the indifferent stain of cytoplasm. The bodies increase in size up to 8 and 12 microns, and at this time the chromatin-like substance divides into a number of small bodies similar to those which first appear. This development of the organism forms a definite cycle which corresponds to the multiplicative cycle of self-infection in malaria. All these bodies lie in vacuoles in the cytoplasm. When this cycle has been completed a second cycle begins its development in the nucleus. The first stages of the nuclear infection have not been seen, but it is supposed that the bodies produced by multiplication (gemmules) enter into the nucleus, and after a complicated development form sporoblasts, which consist of a large central chamber with a series of chambers arranged peripherally. In the peripheral chambers spores from 0.37 to 0.50 micron develop, and these spores constitute the air-borne infectious material of smallpox. The nuclear development is more complicated than the cytoplasmic, and forms regarded as sexual appear during its course.

Vaccinia was studied in the monkey, in the rabbit, and in the calf. In these, bodies which take a course of development similar to the cytoplasmic forms of the smallpox parasite appear. There is some difference in rapidity of development and size of the organism in the different animals and the different localities inoculated. The best development takes place in the skin of the calf. No intranuclear forms appear.

As a result of these investigations it is shown that vaccinia is a definite variety of variola; that the development of the organism in this only goes through the simple multiplicative phase. The contents of a variola vesicle or pustule inoculated on the calf produce vaccinia, and from this vaccinia is again produced. The same material inoculated on the skin of an ape pro-

duces smallpox. These cytoplasmic inclusions in smallpox and vaccinia were first seen by Guanieri in 1891, and were regarded by him as parasites. Most observers since then have given the same interpretation, but their full development and multiplication was not known. The intranuclear forms of the parasite forming the striking difference between variola and vaccinia were not known previous to this investigation.

An Unusual Case of Potassium Iodide Idiosyncrasy.

Dr. Henry Gathmann, of Milwaukee (*Medical Record,* Jan. 30, 1904), reports the following:

In treating a patient, aged fifty-two years, tailor, suffering from complicated pathological conditions in and about the perineal region, he recently had occasion to administer small doses of potassium iodide for a few days.

The patient had been ordered a saturated solution of potassium iodide, and took three doses of ten drops each, in water, on the first day; the dose was increased by one drop daily, so that on the fourth day he took three doses of thirteen drops each. On this day his finger-tips showed a slight cyanosis, and as no reason for this condition could be found in any of the vital organs, the drug was discontinued for the entire fifth day. Although this local cyanosis thereupon disappeared within twenty-four hours, he was not thoroughly convinced that this was not a mere coincidence and that the symptom had really been due to the iodide.

So, on the evening of the sixth day, one single dose of fourteen drops was given the patient, and next morning he found him afflicted in the following peculiar and even alarming manner: There had occurred during the night, after this single dose of fourteen drops, a diffuse ecchymosis under the entire skin of all his fingers and thumbs, so that at first sight they appeared exactly as if he had dipped his fingers, up to the metacarpophalangeal joints, into a pail of indigo dye. The discoloration stopped very abruptly at these joints, a few dark-red specks at its upper limit being noticed on closer inspection only. The fingers in addition were numb, cold, stiff, slightly swollen, and very painful. The little finger of each hand was most severely affected and almost absolutely black; the process lessened very slightly in each succeeding finger, so that the thumbs were of a very dark blue rather than black color. The metacarpal region of each hand was normal in color, though just a little swollen. In addition the ex-

treme tip of the nose was similarly affected, though less severely. The toes, however, were and have remained entirely normal, and, in fact, excepting a few isolated, mild purpuric spots on the thighs and on one arm, the condition was confined altogether to the fingers and the tip of the nose.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Premature Labor and Accouchement Force.

W. Williams (*American Gynecology,* December, 1903) is against the induction of premature labor—nearly seventy per cent of the cases are born spontaneously, and the chances of life in premature children are small. He lets his patients go to term and go on to the second stage of labor, and if at the end of two hours the head shows no sign of engaging, and the mother and child are in good condition, Cæsarian section should be performed. This, however, is rarely necessary. The only cases where the author would induce labor in a contracted pelvis are those where in a prolonged pregnancy labor does not come on at the expected time, or where, from the previous history, one is led to suspect an unusually large child. Induction of labor is indicated in marked toxemia where uremic symptoms occur—the amount of urea steadily decreasing, whilst the albumin increases. In placenta previa, again, the author advises the induction of labor as soon as a positive diagnosis is made. In ordinary cases the best method of inducing labor is the introduction of a sterile bougie. Champetier de Ribes's bag is more rapid in its action. When more rapid dilatation is needed (accouchement forcé), as, for example, in eclampsia, the author speaks most highly of Harris's method, which is available as soon as one finger can be introduced into the cervical canal; the thumb is gradually forced up alongside it, then two fingers and a thumb, etc., the back of the thumb being used as a dilator. By this method the canal can be dilated in five or six minutes, but it is better to take twenty or thirty minutes over it. The author has practiced this method in 87 cases (eclampsia 30, toxemia 13, placenta previa 10, to hasten labor 34), with three deaths directly attributable to the operation. To the average practitioner it is a safer method than the use of metallic dilators—for example, Bossi's.

Obstetrical Aspects of Pelvic Exostoses.

D. Daniel (*British Medical Journal,* Jan. 9, 1904) insists that by "pelvic exostoses" should be understood osteogenic exostoses proper, as defined by Dupuytren and Broca. Inflammatory trophic and neoplastic growths must be excluded, as must those enormous tumors so often figured and described before anatomy and pathology had reached their present development. True exostoses of the pelvis arise at the points of union of the three elements of the innominate bone, the ischium, ilium, and pubes, or at the junction of points of ossification in each of these elements. The special feature of these exostoses is that, appearing during the early period of development of the skeleton, they grow in proportion with the normal bones, and what is of special importance to the obstetrician, they cease to grow when the skeleton has reached its adult proportions. Diagnosis is often easy, as osteogenic exostoses are often multiple and are to be detected on the long bones of the extremities. When absolutely localized to the pelvis they are harder to diagnose. In a doubtful case their special situation at points of union of the different elements of the pelvis and a history of slow growth, or of no increase in size at all, will distinguish them from malignant tumors of the bone, hypertrophic osteitis, bony spines representing ossification of tendon, ossification of cartilage, and callus on fractures of the pelvic bones. The radiograph is of the highest value for diagnosis, and consequently for prognosis, when the subject is pregnant. It aids the obstetrician in defining whether spontaneous labor be possible, or if not, what operation will be called for.

Forcible Dilatation of the Cervix in Accouchement Force.

J. M. Kerr (*British Medical Journal,* Jan. 9, 1904) in discussing the use of Bossi's or Trommer's dilators says that when the cervix is obliterated and the os will admit the dilator without difficulty, dilatation can be carried out in about twenty-five minutes, and there will be little or no laceration.

In cases where the pregnancy has advanced to or near term, even although the cervix is not obliterated, dilatation may be accomplished with comparative safety to the cervix, provided care, time, and patience are expended in the operation.

In cases of early pregnancy with the cervix unobliterated, there is a decided risk of extensive lacerations, even although the greatest care is taken.

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ORIGINAL CONTRIBUTIONS.

THE CONTRACTED KIDNEY AND ITS CLINICAL SIGNIFICANCE.

BY WALTER L. BIERRING, M.D., IOWA CITY, IOWA.

In considering the subject of the contracted kidney I can hardly hope to offer anything that is particularly new, but possibly the study of its clinical significance or relation to the organism as a whole may present a few points of interest.

The term contracted kidney is but the anatomic expression for the condition produced by the development of new fibrous connective tissue, and as such is usually the result of some chronic irritation, more frequently inflammatory.

Under this head I will include the following three forms:

1. Secondary contracted kidney or secondary chronic interstitial nephritis.

2. Primary contracted kidney or primary chronic interstitial nephritis.

3. Arteriosclerotic kidney or arteriosclerotic interstitial nephritis.

To this might be properly added a fourth or mixed form, usually a mixture of the chronic interstitial with a chronic tubular nephritis. While the several forms differ considerably in their anatomic appearance, and have a varied etiology, in clinical manifestations and significance they are identical.

I have excluded from this consideration the chronic congested kidney, and the amyloid kidney, both presenting in their later stages a certain amount of induration, yet not sufficient to warrant a classification with the contracted kidney, or even as separate, distinct, indurative conditions.

The secondary contracted kidney represents the terminal stage of the chronic tubular or parenchymatous nephritis, and thus usu-

ally succeeds the large white or large red kidney. As the interstitial changes supervene over the tubular or parenchymatous, the resulting induration leads to a contraction of the organ, but as it follows a condition in which the kidney is enlarged, the resulting kidney is not smaller and frequently somewhat larger than the normally sized organ. The surface is granular in appearance, capsule adherent, cortex denser in consistency and diminished in thickness.

The primary contracted kidney is a chronic interstitial process from the beginning, and the consequently contracted organ is frequently but one-third or one-half the size of the normal kidney, with a greatly narrowed cortex of dense leathery consistence and a marked granular surface, for which the term granular or cirrhotic kidney is very appropriate.

Arteriosclerosis of the kidney may be representative of the renal type of arteriosclerosis, and thus be the only manifestation of arterial change in the body, or it may be the accompaniment of a general arteriosclerosis. The contraction that results is explained by the localized arterial anemias in the cortex, which lead to infarct formation. To replace the defective areas included in the infarctions, new connective tissue is produced which promotes contraction.

The contracted organ is small, often but one-half the size of the normal kidney, but the contractions are irregular, often existing as deep scars, and the uniform granular surface seen in secondary and primary contracted kidney is not present.

Histologically the changes in the three forms are more or less uniform; the fibrosis or interstitial change is manifested by an increase of the fibrous connective tissue about the blood-vessels, around the glomeruli, and between the tubules. In the secondary contracted kidney the tubular changes are very marked, while in the primary contracted kidney the interstitial fibrosis predominates, and in the arteriosclerotic kidney the fibroid change is more or less irregularly distributed to correspond with the anemic areas.

Essentially the anatomy of the three forms is identical, differing only according to the distribution and mode of production of the new connective tissue; the resulting condition in each instance is an example of contracted kidney or cirrhosis of the kidney.

Etiology.—The causation of the three forms of cirrhotic kidney is more or less uniform, and is usually of hematic toxic origin. As the purification of the blood devolves almost entirely on the

kidney, an abnormal condition of this fluid is liable to produce renal lesions.

Toxic irritation of the kidney is the common cause of all nephritis, and these toxic substances may be either of chemical, infectious, or metabolic nature.

Where the chronic nephritis or cirrhotic kidney develops as a result of an acute nephritis the condition must be attributed to the same influences prevailing in acute nephritis. Chronic interstitial nephritis or primary contracted kidney is essentially a chronic malady from the first, and the toxic irritant is evidently of gradual and persistent character, of which lead and alcohol are good examples.

In connection with this form of cirrhosis it is the disturbances in nutrition that play an important rôle, especially such processes as gout, chlorosis, diabetes, the various cachexiæ, overwork, chronic skin, hepatic, and intestinal affections. I cannot refrain from emphasizing what has been dwelt upon by Elliott, that autotoxemia of digestive origin is the most frequent cause. In fact, the early symptoms of chronic nephritis are not infrequently equally characteristic of gastrointestinal derangement, as the coated tongue, eructations, abdominal discomfort, constipation, pain in the back, oxaluria, and excess of indican.

The liver appears to be the vestibule of all toxic and infective agents, alimentary and digestive poisons, absorbed from the bowel; and if for any reason its protective action is incomplete, these irritating bodies gain access to the blood and are presented to the kidney in excess.

The causation of an arteriosclerotic kidney must be the same as that of arteriosclerosis in general, but associating as we do the process with senescence, chronic infection and intoxication, and definite local systemic derangements, the circulating poison can readily be conceived as a cause for both the indurative and degenerative lesions in both blood-vessels and interstitial connective tissue of the kidney. The occurrence of arteriosclerosis in the kidney does not necessarily preclude the presence of arteriosclerosis elsewhere, as it may be the only example of it in the body.

Diagnosis and Relation to Cardiovascular Changes.—With its frequently insidious onset and slow development, cirrhosis of the kidney is well styled the *bête noire* in diagnosis for the clinician.

The dependence of diagnosis clinically relies principally on the changes in the urine and the cardiovascular changes.

The urine is increased in amount, of low specific gravity; the amount of albumin is usually slight, often no more than a trace, at times more, again absent for days and weeks at a time, may appear cyclic, and resemble a functional albuminuria. The sediment consists of a few hyaline casts, rarely a few epithelial and granular forms—as a rule the casts are rather narrow.

As the urinary symptoms are more or less obscure the cardiovascular changes assume a more important rôle—in fact, they dominate the clinical picture of chronic nephritis or the contracted kidney, and take a commanding position in prognosis and treatment.

The changes in the heart muscle find expression in hypertrophy, primarily of the left ventricle. At times an interstitial myocarditis may be associated with it; valvular lesions are extremely uncommon, except as through dilatation a relative insufficiency may result. The longer the process continues or that a patient lives, a consecutive enlargement of the right ventricle may also occur.

The left ventricle hypertrophy manifests itself by an accentuation of the second aortic sound and increased arterial tension.

The changes in the arteries include primarily a contraction leading to a small pulse, which resists compression and flattening, with a small pulse wave. Later in the process evidences of arteriosclerosis appear, and finally those of atheroma.

The cardiac hypertrophy must be regarded as a conservative process, the result of nature's kindly efforts to overcome peripheral resistance and compensate the renal insufficiency, but it also marks the beginning of a vicious circle of degenerative changes in the cardiac structures, which are wide-spread and lethal in tendency.

With but few exceptions thickened arteries and a pulse at high tension may be accepted as cardinal signs of cirrhosed kidneys.

Although the relation of cardiac hypertrophy to renal disease is a thoroughly well established one, the mechanism of its production is by no means clear in spite of the large amount of work that has been done on the subject, especially from the pathologic side.

That it is purely compensatory for renal deficiency is hardly tenable, because it is occasionally absent in granular kidney of high degree, and even when a large amount of kidney substance is destroyed, as in hydronephrosis and extensive cyst formation, there is no attending cardiac hypertrophy.

Where atheroma of the aorta and sclerosis of peripheral arteries exists, a contracted kidney of arteriosclerotic origin can reasonably be expected. In a recent article Mix places the greatest reliance in diagnosis on the physical signs manifested by the cardiovascular system, giving but a minor consideration to the urinary symptoms.

With well marked cardiovascular and urinary changes the diagnosis is readily made, but since cardiac hypertrophy often appears late, and again is absent, when the urinary findings are also at times misleading, especially as to quantity of urine and amount of albumin, it becomes a matter of extreme importance to determine whether the kidneys are seriously affected or not; this being equally as important to the surgeon as to the physician.

In fact, it is a matter of greatest clinical significance to know whether the kidneys perform their proper function, and clinicians have long sought after methods to determine the conditions of the renal filter. The renal permeability, as the French writers term it, is tested especially by noticing the interval between the administration of a substance and its reappearance in the urine.

The most noteworthy tests devised for this purpose are the following:

Methylene blue and rosaniline tests.

Potassium iodide and salicylate of soda tests.

Phloridzin test.

Cryoscopy.

Methylene blue and rosaniline are substances that are introduced subcutaneously in definite amounts, usually one cubic centimeter of a one-per-cent solution of the stain, which leads to the excretion of a coloring matter in the urine.

Drugs like potassium iodide and salicylate of soda produce more or less pain when injected subcutaneously, and to avoid this very small quantities must be used, which is in itself a drawback to these tests. The elimination by way of the kidneys and easy recognition of the substances in the urine tests the efficiency of the renal filter.

Whenever the elimination of these substances is prolonged beyond the time limit noted under the normal conditions, or the amount excreted diminished, a diminution in renal permeability is recognized.

These substances test principally the filter function, but in the introduction of the new substance phloridizin as a test object, the purpose sought is to gauge the metabolic activity of this organ, inasmuch as the administration of phloridzin causes

glycosuria owing to a specific action on the renal cells. This test was introduced by Achard in 1900, and was first administered by the mouth, later subcutaneously. The dose is five milligrammes, which is preferably mixed with equal parts of sodium bicarbonate to hold the phloridzin in solution, being injected subcutaneously into the lumbar region. In the healthy kidney sugar appears in the urine in one-half to one hour after the injection, disappearing in the course of two to four hours, the amount of sugar excreted averaging one-half to two grammes.

Under diseased conditions the amount of sugar excreted is less than normal, and is not greater during the first half-hour than the second half-hour, which is the case under normal conditions.

The separation of sugar from phloridzin takes place in the epithelial structure of the glomeruli and the tubules of the renal cortex, and in no other part of the body, so that the test indicates, first, the integrity of the epithelial structure, and secondly, the degree of permeability of the membranes which interpose between the blood and urine in the renal parenchyma.

Watson and Bailey, of Boston, have recently made very extensive applications of this test, and I take from their conclusions that the test gives accurate indications of the condition of renal function and of existence of renal disease, more delicate and discriminating than ordinary urinary tests, but in the larger number of observations it has shown itself too variable to be trustworthy, and to justify urging its adoption in preference to former methods of urinary analysis for estimating the functional capacity of the kidneys.

In cryoscopy a new means is opened up by which the integrity of kidney structure may be determined. The name refers to the process whereby the freezing point of certain liquids may be compared to that of distilled water, and in the study of the comparative freezing point of blood and urine in an individual an estimate of kidney function is obtained.

When the freezing point of blood is lower than normal, and the freezing point of urine is higher than normal, the condition indicates an insufficiency or impairment of the kidney.

This method is reported principally in foreign journals, but appears to be of the greatest value, and if by further work its value receives additional corroboration, the surgeon and physician of the future will have a means of diagnosis that will be invaluable.

Thus we find that with the best of diagnostic means a case

here and there escapes recognition, until forcibly brought to our attention by the diagnosis of the ophthalmologist of an albuminuric neuroretinitis or a uremia amaurosis, or the sudden onset of a hemiplegia, or a uremia with its disastrous chain of consequences.

Clinical Significance.—While we look for the cirrhotic kidney in later life, the conditions adaptable for its development can exist at an earlier age.

The secondary contracted kidney more closely connected with prolonged infections or toxic irritants is liable to development in early life.

Age is no criterion for the existence of arteriosclerosis. It has been observed by Bergnitz in a child of eighteen months; by Young in a child fifteen months of age; and Seitz, among 148 autopsies of arteriosclerotic subjects, found seventeen cases ranging from ten to twenty-nine years of age.

The contracted kidney represents a definite form of diseased kidney, and as such probably exists after middle life more frequently than is generally suspected. When present it probably has a greater influence on the general health than any other disease condition.

In fact, if I were to gauge an individual's power of resistance to the various influences that disturb the normal equilibrium, it would be by the condition of the kidneys; to the trite saying that the criterion of a man's age is the state of his arteries, I would prefer to add that a man is as old as his kidneys.

The successful outcome of many a surgical operation, often of the simplest nature, depends upon the proper eliminating power of the kidney, and the postoperative uremia is often the first indication of a contracted kidney.

Among the various infections, septicemic or bacteriemic in character, we stand practically helpless if the channels of elimination fail, and especially the kidneys. It modifies the course of every pneumonia with general pneumococcus septicemia, and in streptococcus infection the prognosis is invariably bad if a renal insufficiency exists.

What might be an ordinary gastrointestinal indigestion in one person, in another, with a cirrhosis of the kidney, disturbance in hepatic function would result, the blood become overloaded with autotoxins, and because of the renal insufficiency a uremia must necessarily result.

SYPHILIS IN CHILDREN.

BY WILLIAM WORMLEY, M.D.

No class of people in the world lie so easily and so effectively as syphilitics. Even morphine habitués exhibit no greater abilities in distorting the truth or producing statements utterly false. In treating this phase of medical treatment the physician is thrown into situations which no text-book has described, which require all his ingenuity to meet and conquer. This is especially true if the physician is uncertain of his diagnosis. Here he is out in a treacherous sea with only his god-fairy to help him.

Years ago Goodell in his lectures on syphilis laid down this axiom: In medicine suspect everybody and everything, especially when you meet conditions that are not clean. The innocent wife, the innocent child, may both be victims of the syphilitic virus. No position in life, no amount of wealth or refinement is a barrier to its progress. Forchheimer states that in his experience he only found one father who was honest enough to acknowledge that he had syphilis while his child was being treated.

I will endeavor in this paper to point out clearly what constitutes the diagnosis of infantile syphilis. The first classical sign, as it is termed, of syphilis is the eruption. It appears upon the skin and mucous membrane, choosing the skin of certain regions and the mucous membranes of other parts. On the skin the favorite points of appearance are on the soles of the feet and the palms of the hands. After this in frequency comes the triangle between the eyebrows, the so-called "glabella."

The eruption of the mucous membranes is peculiarly apt to appear where this membrane joins the skin, such as around the mouth or the anus. The external genitalia comes next, and then the nose. As a rule an eruption in these locations is very suspicious; it may be enough on which to base a diagnosis.

Of this eruption we can for clinical purposes divide it into three grades, which may be called mild, severe, and moderate. When the eruption is macular, the form is the mild; while pustular is the severe. A combination of these two eruptions occurs when the form is moderately severe, such as maculopustular, or maculo-papulo-pustular. There is another form of syphilitic eruption which may be called syphilitic pemphigus, where there are enormous vesicles which are really bullæ. This form may be called the fatal type, for the prognosis is very bad in such cases.

It is a recent idea that many pemphigus cases are really free

from any suspicion of syphilis. Holt suggests that many cases regarded as syphilitic of this description belong in the classification of "pemphigus neonatorum." There have been several cases of disease reported in the past five years by Beck, Holt, Hellier, and Knocker. In Holt's cases the children were under nine days of age when the blebs appeared, and were apparently healthy, but they died in the course of a few days. Knocker's cases all recovered.

Bacteriological examinations were made in several cases, and microörganisms were found. In Holt's case there was associated staphylococcus infection, with the involvement of lungs and liver, as shown by the autopsy. Knocker's cases show particular interest, for both of them had been delivered by the same nurse, who washed them daily. The London Dermatological Society thought these cases were mild types of pyodermia, the result of inoculation of pus-forming organisms in a non-virulent form.

Snithlen has made a more careful report, as he has studied these changes in two cases. He found staphylococci at the edge of the blisters and in the bleb fluid, degenerated cells, and leucocytes. He believes this pemphigus to be an infectious disease, wholly free from syphilis, caused by contaminated articles used in giving the bath, etc. As many of these cases have terminated fatally, it is well to study their treatment. Munz recommends that all newly-born children suffering from pemphigus should be given a bath at 90° F., to which an astringent or disinfectant has been added, twice daily, or in case of weakness once daily, or every two days, allowing the infant to stay in five to ten minutes. Potassium permanganate is excellent for this purpose. Carefully prick and empty the larger pemphigus blebs before the bath, and remove the contents with a mop of absorbent cotton-wool dipped in a two-per-cent boric solution. Then use over the skin, avoiding friction, a dusting powder of two parts of airol and ten parts of amylum.

Syphilographers call the papules which occur on the mucous membranes of the border of the mouth, especially, "shagades;" it is simply a term for infiltrated cracks in the papules. It makes the sore look like a continuation of the mouth; or if it were cloth instead of flesh, we might say the material has begun to tear. These papules occurring around the anus are rounder and more apt to be in clumps or groups. The tongue is also a great aid to diagnosis, although generally overlooked in the text-books. The typical syphilitic tongue looks as if it had been scraped or shaved, with the result that the filiform papillæ are gone, while

the fringiform remain. The circumvallate papillæ are much enlarged, while papules may be common. Frequently this condition of the tongue may be the first clue to a diagnosis.

When we get a child syphilitic in character we may in some cases diagnose the disease before the patient is seen. For example, the mother of a syphilitic child generally says that the child has never been well. It is puny, poorly developed, and seems to sicken easily. It always looks older than its real age, and anemia may be most marked. The curious whine of a syphilitic baby is diagnostic; it does not actually cry, but whimpers as if in constant discomfort. In the words of "Sairey Gamp" the child has the snuffles; it seems to have a cold in its head; there is a nasal discharge and a difficulty in breathing through the nostrils. The voice of the child is hoarse, and marasmus is progressive. With this there should be classically the eruption I have described. Examine as a routine plan the palms and soles of the feet, the forehead, and the mucous membranes. Do not allow any suggestions of your patient's family to mislead you.

Now how to treat this condition. Should you tell the parents the condition of the child? I have made it a rule to discover the offending parent, which to the sorrow of our sex is generally the father, and taking him aside I tell him the truth. To the mother I say it is a "blood disease" and needs excellent care. While it is not a pleasant task, it is necessary for some one in that family to know the truth, else the child cannot be handled properly. Do not be dishonest and shirk your duty. It is a good working rule to frighten the guardian you select and make a poor prognosis. It may be a true one, for the child has not the vitality of other children and cannot stand well the vicissitudes of juvenile life. For example, such a child with a bad bronchial catarrh is very apt to develop catarrhal pneumonia with measles and other children's diseases. Tuberculosis is peculiarly apt to develop because the lymphatic system of these children is far below par.

On the other hand, many children with milder forms do well and grow up apparently in good health. This has been my experience, and I suppose that of others. But it will require good, careful handling and nursing to accomplish this result. In private practice the results are far more brilliant than in hospital work. As a rule the syphilitic child in the hospital ward does wretchedly. Lack of home care, attention, wretched physique, have doomed this patient. As a consequence the mortality here is heavy. It is perhaps a wise dispensation of Providence to pro vide for the survival of the fittest.

When it comes to the question of treatment it is probably true that almost no disease is so susceptible to scientific handling as syphilis in children. The sheet-anchor, as in adult cases, is still mercury. Advances have been made in medicine, new ideas suggested in syphilis, but the use of mercury I find indispensable. Of late years there has been rather a reaction for what is called the "tonic treatment," owing largely to the success of southern physicians with various other drugs such as I will describe later.

When you take charge of a syphilitic child, impress on the parents or guardians the need of patience and the fact that the treatment is going to extend over a long period. In fact, the child should grow up under the eye of its doctor. The American method of giving mercury is by the mouth. The objections urged to this procedure are that the mercurials affect the bowels, reduce weight, and thus impair general nutrition. Calomel is the drug for infants, given in one-tenth-grain doses three or four times daily. Should the bowels not be disturbed, this is the ideal way of administering mercury. It gives marvelous results, and the child picks up like magic. Its nutrition grows better, its weight increases, and things begin to look rosy. Should the calomel prove too purgative in its action, which is not as often as we might imagine, then some substitute must be tried. Here an excellent drug is the tannate of mercury, in the same dose or slightly larger. The results are not so speedy, but the final condition is perhaps as good. Other forms of mercury may be tried. Our larger drug firms have put many excellent forms on the market; they are reliable, I have found, when so advertised.

Relapses are supposed to occur more frequently when the internal treatment is used. I do not think so; but if so, keep up your treatment, and you will find the relapse disappears as quickly as the original condition.

In Germany—in fact, in continental Europe—the use of mercurial baths and inunctions is largely recommended. These methods are not common in America, except perhaps among specialists in the larger cities. The mercurial bath is not so severe as it sounds to the uninitiated ear and has no contraindications. Here it is better to use the mercury in the form of corrosive sublimate, five to ten grains to the bath. Give the child one bath a day. In the inunction treatment select a form of mercurial ointment that is non-irritating. Many specialists use the unguentum hydrargyri fortior or the stronger ointment, taking enough to form a good-sized pea. It is impossible for families to keep a trained nurse all the time, so teach the mother to do the

work. As a rule, trust no servant, however apparently faithful. If they are not careless they are apt to have no judgment. Begin with the chest and rub one way—that is in the direction that the hair grows. Hence on the chest the mother rubs downward. Next day use the abdomen, then the inner surface of the right thigh, then left, then come back to the chest. This will take four days to complete the cycle. Look out for eruptions; it will not do to rub over them, although this does not contraindicate the baths. *Rub for ten minutes by the clock.* Ten minutes of steady rubbing seems forever; but it must be done. Impress on the mother the necessity of this length of time.

Again in recent years comes the question of injecting the mercury hypodermically. The reviewers of foreign articles are often surprised at the number of articles on this subject in the continental medical press. In this country it is not common to use this procedure unless the patient is in danger of death. In the severe forms of syphilis it can be tried and may occasionally be successful. It produces a cellulitis, however, and there is no telling where this inflammation will stop. Cases have been reported where a syphilitic child has had an abscess on the back, extending from the neck to the buttocks. Corrosive sublimate is the proper form to use, mixed with a little salt, beginning with one-hundredth of a grain.

It is possible to salivate a syphilitic child—that is, it is possible to produce the same results. A cancrum oris or a gangrenous stomatitis can be produced which may kill the child. Hence always watch the mouth; it is a good guide. Never allow the child to take treatment except under your care. Keep the mouth clean, using euthymol in diluted form, or some such drug as a weak solution of potassium permanganate.

In the South there has arisen a class of practitioners who use tonic drugs instead of mercury, such as preparations of various plants. With these they get excellent results. I have found in children old enough to have teeth that these drugs do well in addition to the mercury, but in my experience it is culpable to omit mercury in some form. Again, syrup of the iodide of iron has been used; here possibly in the mildest cases it may do, but I do not believe in running risks. A mild case badly treated may become a bad case. Used as an adjunct it may be excellent, given in rather large doses increasing to the capacity of the child.

Occasionally we find cases where local treatment is necessary. Here we know mercury attacks syphilitic tissue *in loco,* and for this purpose the best form is the emplastrum hydrargyri, official

with the Germans. I tried it years ago on the suggestion of Forchheimer, and it works well. He combines it with lanolin in the proportion of five parts of emplastrum hydrargyri with one of lanolin. This serves to soften the plaster. It is put on lint and applied to the corners of the mouth or affected parts. The infiltrations disappear rapidly. For the anus, use buckskin or other piece of soft leather. Allow it to stay on for a day or two. Corrosive sublimate may be used for the mouth, but it smarts, and hence is hard to use in children.

Acquired syphilis in children is very, very rare; I have seen only a case or so. If this is the case, however, bring the baby up on artificial food; otherwise let the child nurse. Of course use common sense; if the child does not thrive on mother's milk, or if the latter is scanty, use what you prefer.

THE WORK AND WORTH OF THE GENERAL PRACTITIONER.*

BY O. S. CHAPMAN, M.D., MINNEAPOLIS, MINN.

I wish to speak to you to-night in regard to the work and worth of the general practitioner, for much has been said and written in recent years concerning specialists and specialism in medicine, but the general practitioner, as such, has had but little place in the current medical literature, and yet he it is who must ever continue to bear the major part of the care and responsibility of the profession.

The time was, and it is within the memory of some of us, when every mature and successful practitioner was considered the authority in all matters pertaining to health and sickness. He is still the medical counselor of the household, treats most of the acute diseases, many of the chronic, has the care of the parturient, watches the development of children, and does much of the minor surgery. He attends to the hygienic conditions and sanitary surroundings of the individual, makes diligent inquiry concerning his personal and family history, his habits and mode of life; and yet he does not occupy the same relative position of unquestioned authority as formerly. I trust it is not out of place for me, therefore, to inquire if he is to have a waning influence in the coming years, or to inquire by what means, if any, he can regain lost ground.

*Read before the Hennepin County Medical Society, Minneapolis, Minn.

Perhaps the principal reason for the general practitioner having lost ground in some respects in the public mind is because of the advent of specialism, but specialism in the science and art of medicine, as in other sciences and arts, is inevitable, and not to be deplored, for its advantages far outweigh its disadvantages. Anesthesia and asepsis have enabled the surgeon and gynecologist to do a greatly increased amount of work. The introduction of cocaine has been followed by a rapid increase in the nose and throat specialist, and it has facilitated the work of the ophthalmologist. Bacteriology, chemistry, and sanitation have opened many avenues for specialism, and the teaching force in our medical colleges has been greatly enlarged.

It is naturally to be expected that the leaders in thought and in the literature pertaining to the various branches of medicine should, in general, be found among those who devote their time and thought to the study of the respective branches; nevertheless it would seem that the general practitioner can acknowledge to them no superiority in broad culture, or benefits conferred upon humanity. His wide reading and experience in all branches of medicine tend to a high degree of intellectual activity and a symmetrical development of the mind, although the field is so large that no one man can possibly oversee it all and bring it into full productiveness. We cannot, therefore, be too thankful to the men who are willing to devote their time and energies to the study of some one of the various branches of medicine, for it is only by so doing that the higher thought and professional skill can be attained, of which we may all, in some measure, be partakers. The general practitioner cannot cope with the ophthalmologist in the endeavor to trace the image upon the retina back through the delicate structures of the brain, where the image is transformed into thought, or with the nerve specialists in dissecting the microscopic anatomy of the brain and of the nervous system in the endeavor to ascertain the manner of conveyance of sensation, or the physiology of sleep; neither can he acquire the manual dexterity of the skilled surgeon; but he can gather in the important facts of the scientific knowledge acquired and expressed by others. Thus he has a wide field for cultivation which is full of fruitage.

In his practical experience he finds that the human body is a continuity of structure, and disease in one part must inevitably have its influence upon the remainder. He should therefore be considered a broad specialist of the great sympathetic system, and a student of each individual part of the whole organism. He must have a good conception of the whole phenomena of disease,

including the psychological manifestations and reflex irritations. The great bulk of his practice is made up of the common diseases, and these should afford as much food for reflection as the most elaborate medical problems. The common cold, for instance, is but little better understood than the etiology of pernicious anemia, and locomotor ataxia is almost as amenable to treatment as the simple headache of certain individuals. Indigestion and autoinfection are far more common, and in the aggregate produce a greater amount of human distress than cerebrospinal meningitis, yet scores of pathologists and bacteriologists busy themselves about the comparatively rare diseases with high-sounding names to one who undertakes to unravel the equally obscure problems of the more common complaints. This is a practical error, for surely those diseases which affect the largest number of people ought to be grappled with first. The physician who deals with these cases successfully is sure to reap a substantial reward.

The most important work of the family physician, however, is in his bedside studies, aided as he is by all of the increasing and finer methods of diagnosis which the present day affords. Sitting by the bedside and studying the needs of the patient before him, his touch becomes more educated, his unaided eye more observing, his sympathies and intuitive knowledge more acute, and his interpretation of the various symptoms of disease becomes more reliable. His experience should teach him to be a conservator in both medicine and surgery, for he has learned to depend largely upon the forces of nature, aided it may be by his curative measures.

The specialist is liable to be an enthusiast in his speciality, he is apt to be radical in his opinion as to operative procedures, and no matter how interested he may be in every other department of medicine, as we see it manifested in the general work of this society, he does not ordinarily have the advantage of the bedside studies, in seeing his cases surrounded by their usual environment, and he does not become familiar with the resources of nature in restoring abnormal conditions. He has been so accustomed to looking at matters from a surgeon's standpoint, and seeing the dangers that may arise from delay, that it is hard for him to view the situation from a general practitioner's standpoint. The physician is therefore constrained to remain silent, which is not as it should be in a multitude of instances. The public has already experienced some of the disadvantages of the great enthusiasm in surgery, and is casting about for a wise conservatism. The general practitioner has an opportunity of regaining some of his lost

ground in wisely meeting this popular demand. As soon as the more intelligent people of a community learn that he has opinions that are of substantial value, they will turn to him for advice, and will rely upon him to shield them from unnecessary operations, and to deliver them into safe hands when necessary. The cases are numerous in which this advantage can be gained. Only a few days ago I prescribed for a patient with coccygodynia. She had previously been advised to have the coccyx removed, but I feel confident she can be cured without resorting to the knife by following the treatment with some persistency.

Who can doubt that if all recent and considerable lacerations of the perineum after parturition were repaired promptly, and subsequently if it was found that involution was not taking place properly, and there was a tendency to displacement, then making use of all the necessary measures to aid the process and restore the organ, such as taking the knee-chest position, using medicated suppositories and a well adjusted pessary, temporarily, many cases could be saved from the hands of the gynecologists, and many others saved from a condition of semi-invalidism. The manner in which many of these patients are dismissed by the physician after making two or three hasty visits, without knowing the condition of the uterus, is reprehensible. Most of them can be delivered successfully, even by the unskilled, but the after-treatment is quite as important as the delivery in a large percentage of cases.

Again, in my opinion, with a proper regulation of the diet, the prevention of fermentation and autoinfection, taking care that the cæcum does not become distended with gas or fecal matter, much the larger number of selected cases—I use the word selected advisedly—of recurring appendicitis can be cured without operation. I am well aware of the unpopularity of this statement, and that authority is mostly against it. I am also aware of the great responsibility which the physician assumes in advising non-operative treatment in any case, but I have assumed the responsibility in a goodly number of instances, with happy results, and no regrets. The function of the appendix, according to some authorities, should lend some credence to the treatment, for thus the appendix is not brought into activity. The theory which I have adopted is that when the cæcum becomes distended the entrance to the appendix becomes dilated, and the strong muscular fiber of the appendix, through the irritation produced, acts as a reenforcement to send the contents of the cæcum upward and onward.

I cannot but think that sometimes the present method, or

rather the absence of the method, of employing a physician will be modified, and that he will be employed at an annual salary to give regular and systematic inspection, examination, and instruction to the members of the household. To this end text-books will be written to guide the physician in so doing, and blanks will be furnished in which will be given full details of the health conditions of the individual. It seems to me that this method would be quite as feasible and advantageous for the purpose in view as for business houses to employ attorneys by the year, not so much to defend their cases in the courts, as to prevent unwise measures which would require costly methods to rectify. The services of the physician should be in demand quite as much to prevent diseases as to cure them. In all the walks of life, people know better what they should do to keep themselves in the best health conditions than they put into practice. It requires line upon line and precept upon precept to keep them in accord with their better conception of these requirements.

If the physician were employed as above indicated, he would see more diseases which are fatal in their tendencies in the earlier stages, when curative measures would be more effective, and there would be less sudden, unforeseen fatalities.

The general practitioner deals mostly with the more common diseases found in every-day life. With all his skill and habits of observation he does not always have in mind the characteristic symptoms of the more uncommon diseases. The specialists draw their patronage from a wide field, and their cases come to them because they are rare and out of the ordinary. It is but natural, therefore, that they should be more alert in diagnosis pertaining to their specialty. The physician should be thankful to those who are able to call attention to the symptoms and facts which have escaped his observation. Upon the other hand, it often happens that the specialist should be thankful to the physician for carrying the case along from the initiative until the facts become apparent. It is perfectly right, however, for the physician to insist that the specialist should, in the main, be confined to his specialty. In other respects he cannot afford to be merely a "master of ceremonies," the diagnosis and treatment to be furnished by the specialist, and the details carried out by a trained nurse. Sometimes, but happily not often, much care and judgment is required to avoid an apparent conflict of opinion and of authority.

It is sometimes assumed in medical writings, and in popular discourse, that the general practitioner is not a scientific man. Hence there has grown up an unwarranted distinction between

what is termed "scientific medicine" and "practical medicine." According to this view he only is scientific who makes his observations in the laboratory with accessories which the laboratory affords. The painstaking physician who studies his case at the bedside is only a practical physician, making use of his art. Of the science underlying his art he is assumed to be ignorant. To be sure, there is much of art in the practice of medicine which is irrespective of science. He who inspires confidence, hope, and good cheer is practicing his art. There is a wider application in this practice, however, which is based upon scientific principles, for science is the sum of that which is known of the truth or principle; art is the application of the same to practice.

It is conceded that a great part of the accuracy of knowledge has come by way of the laboratory, but all laboratory work is not scientific, however accurate it may be. To look through a microscope and with narrow vision describe a lesion is not, in itself considered, any more scientific than to listen through a stethoscope and observe an abnormal sound. With my laboratory accessories I may be able to demonstrate certain peculiarities of the blood or urine, or at the bedside I may be able to discern an abnormal action of the heart, but in either case I may be ignorant of what the facts imply, or what relation they may sustain to other facts. In the laboratory or at the bedside the degree of scientific knowledge which I may have depends upon what I know concerning the problems, the proper interpretation of the facts, and the relation which they may sustain to other facts. Our text-books teach us the science of physiology, chemistry, pathology, bacteriology, and pharmacology, and the general practitioner, as well as the specialist, must make his deductions from what he knows concerning these sciences in making their application to the art of treatment.

The reckless disregard of some of these principles is often the cause of much misapprehension concerning the worth of the work by the workers in the different fields.

The family physician is chief custodian of the honor and integrity of the medical profession—not because of his commercial supremacy, not in the halls of legislation or upon the rostrum, but because he enters the homes and there exercises his personal influence upon the members of the household. The confidence and esteem of the public for medicine are now, as in the past, reposed in him. Of whom can it be as well said that he watches the development of human life from the cradle to the grave as the family physician? Even before the birth of the immortal beings he strives through the mother to improve their future

well-being and to give them the best fighting chances in the world of action. During their last days upon earth he stands by the bedside ready, if need be, to ameliorate their physical and mental condition, and to soothe by his gentle touch and sympathetic voice. He is a potent factor in many of their social and economic affairs through life; it falls upon him to read their physical index and note their mental gauge for the duties which devolve upon them. When entering upon new business relations, or in making any radical changes in their affairs, he often acts as their counselor, for success in business often depends upon physical conditions. I wish he were more frequently consulted before matrimonial obligations were assumed. I would favor some legislative action whereby a physician, appointed for the purpose, should furnish the marriage license, instead of the county clerk. When the license is given the physician could provide the state with a detailed statement as to their physical, mental, and moral conditions. This would open the way for the adoption of more stringent measures to protect the state from the propagation of the criminal and defective classes, which is by every one considered desirable. To my mind the subject is worthy of extended remarks and agitation.

The physician's influence is widely felt in the affairs of great corporations, municipalities, and the country at large. The immense life insurance companies depend for their very existence upon their medical examiners. No architect can build a dwelling in our cities without complying with the laws of sanitary science. Were it not for the influence of the physician, our streets would be even less cleanly, and the water and milk supplies less wholesome, than they now are, but education along these lines is of slow growth on the part of the people.

The army and navy in every civilized country depend for their efficiency and perpetuity upon their medical examinations. No emigrant dares set foot on our shores without being passed upon by a physician. None of our great steamships can enter or leave port without being inspected by medical men. Preventive measures for the limitation of disease are among the most important duties devolving upon a physician of the present day. Fifty years ago little thought was given to this subject, yet now some of the foremost physicians in Europe and America are giving their attention to the investigation as to the cause of diseases and how to prevent them. Formerly these investigations had reference to public measures, and how to prevent the spread of great epidemics, but now more time is given to individual effort in every department of medicine; to the better understanding of the

problem of infant feeding and how to clothe the little ones; how to adapt the studies of schoolchildren to their mental capacities and secure for them the best hygienic conditions. Much attention is given to the proper food supply of adults; how to prevent the great waste of life from tuberculosis, the drink habit, and other measures of vast importance.

Permit me to say, in this connection, that we ought as far as possible to disassociate ourselves in the public mind from many physicians who are classed with us, but are not of us. I refer to the murderers of the innocent before they have seen the light of day, and others whose chief purpose is to deceive the unfortunate for selfish gain. It ought to be understood that no abortionist, except when an abortion is performed for adequate cause, and then only after consultation with a fellow practitioner, can have any standing among medical men of the better class. As in all other professions, it is unfortunate that the many must suffer from the low standard of morals of the few.

The question of compensation for services rendered is of vast importance to the physician, but time forbids my enlarging upon this point. The literature upon this subject is rather meager, although the physician is frequently advised to exercise more businesslike methods in collecting his bills.

I have yet to see a satisfactory explanation as to the reasons for the great discrepancy in compensation which prevails between the physician and the specialist. That it is greater than it should be is generally acknowledged, although it is conceded that the charges of the specialist should be more than those of the physician; not simply because people are willing to pay more for what they consider special knowledge, but because there is substantial equity in the matter. For the physician to acknowledge that others can do some kind of professional work better than himself is but a compliment to his integrity and wisdom. Inventive talent has given the specialist a great variety of instruments; delicacy and skill in the use of them require a long apprenticeship, since they are more potent for harm than good in untrained hands. Moreover, manual dexterity is impossible to some, and is attainable to none excepting by continual practice. Furthermore, they have the symptoms of diseases pertaining to their specialty more fully in mind, and they are better equipped to meet all emergencies. Because of their limited work and special training they are entitled to greater compensation for corresponding work than those who are engaged in general practice; but the excessive charges exacted by some surgeons from the medium class is highly unwarranted. The family physician attends to a great

variety of diseases, compassing a wide field of thought, and in the aggregate his compensation may be quite as great as that of the specialist of equal standing in the community. His work is more exacting and laborious, but it is quite as necessary for the welfare of humanity, and it has its corresponding attractive features. Custom has, however, in a great measure, fixed his compensation, and it is doubtful if the average citizen is able to pay more for his services than he is now doing. In my opinion, however, the burden should be borne more heavily by the rich and well-to-do, in order that it may be less burdensome upon the less favored classes, not to speak of charitable cases. People in their extremity sometimes enter into contracts with the specialist which are so oppressive that their payment precludes the possibility of the physician collecting his modest fee. It in no wise justifies the course which is sometimes pursued, however, of striving to even up the matter by exacting a percentage of the receipts of the specialist for having furnished him the case. Every financial transaction should be open and above board; otherwise the tendency is to undermine the morals.

In the various departments of medicine there is an opportunity for the development of the highest qualities of mind and heart, for the more we know the better we can appreciate how much there is yet to be mastered. It may be a question as to whether it is most advantageous to strive, as far as in us lies, to gain the mastery over one or many subjects, but if the general practitioner have a depreciating valuation of his own attainments as compared with those of the specialist, he will have a waning influence in the coming years; for the specialist is both aggressive and progressive, which is commendable. And furthermore, if he would regain lost ground, he must be a thorough diagnostician, born of knowledge, tact, and experience, and he must be able to give wise counsel and therapeutic measures with soulful helpfulness to all those who are afflicted with the manifold diseases and mental disturbances to which human flesh is heir.

After all, it will be found more and more evident in the coming years that every one should have the seed of the Christ spirit implanted within the heart, so that it may grow from within outward. It cannot germinate outside of the heart and grow inwardly, no matter what may be the mental culture of external surroundings. The law of life in the natural world is that germination must take place within the parent cell; then we have the blade, then the ear, then the full corn in the ear. It is perfectly safe to assume that in some sense the same law prevails in the spiritual world.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

COEDUCATION AGAIN.

One or two recent utterances on the question of coeducation are noteworthy, not as presenting any new facts of special significance, but because they emphasize certain convictions which have been slowly crystallizing in the minds of educationalists. One of these spokesmen is Dr. Ely Van de Walker, who has written on "Woman's Unfitness for Higher Education." The author is an eminent gynecologist, one of the best known in the country, and has had large experience as a school commissioner, and is therefore thoroughly familiar with the conditions prevalent in coeducational institutions. His contention is not for lesser education in girls, nor does he deny the feasibility of educating females to the standard achieved by men; but he argues that the two sexes should not be coeducated, as the ideal to be attained is different, and coeducation can only result in a compromise achievement, in matters in which no compromise is desirable. To exact of women the same knowledge as men in certain fields is as impossible as it is for men to appreciate the ultimate physiological and psychical conceptions of women. In other words, the sex factor is so predominant that community of perception is impossible. From his own large experience the author makes more specific indictments of coeducation, which have been made more or less familiar through general observation, that ignoring certain physiological limitations has deranged health, and that as conducted in the United States coeducation has not been without effect in impairing morality.

In a recent article by Dr. William Howard, of Baltimore, occurs the following statement: "A biological differentiation in male and female is recognized by scholars of broad experience

and world knowledge. The few women of uncertain sexual activity and the pedant of indifferent male attributes, who cannot appreciate the true physiological sexual relations of the adolescent of both sexes, are not the individuals to hearken unto. The segregation of the sexes in colleges is the devised result of laws laid down by nature, and a necessity if the proper social conditions are to prevail. After sufficient trial, after acquiescing to the clamorous demands of a class who can best be described as physically and sexually incomplete, the mingling of the sexes in colleges is shown to be inexpedient, if not dangerous to the future welfare of all concerned."

It seems peculiar that the experiment of coeducation should have been really necessary to effect a realization of the truth that the sexes are physiologically and psychologically separate and distinct entities. Elementary biological conceptions should have been enough to carry conviction that the sexes once differentiated, that tendency to differentiation must be in the nature of arithmetical progression; that the sex difference in primitive man while fundamental is less accentuated than in the highly civilized; and that no scheme of education can be based on true physiological and psychological principles which does not realize this primal and unchangeable fundamental factor.

EDITORIAL NOTES.

Fetus 441 Days in Utero.

The *British Medical Journal* of a recent date contains a very interesting report by Dr. Hagman of a woman who retained a fetus 441 days *in utero*. The case recorded is that of a woman thirty years old, who had been six times pregnant. On January 16, 1900, she aborted at the third month. It was necessary to resort to curettement to remove the placenta. The next period occurred on February 16, and lasted as usual seven days. Pregnancy soon became evident, accompanied with unusual sickness and headache. On October 17 the patient had to take to her bed owing to an attack of acute nephritis. The urine was four-fifths albumin, and the pulse and temperature high. On the next day the patient declared that all fetal movements stopped with a sudden jerk. They were never felt afterwards, but uterine contractions were marked for a number of days. The nephritis soon disappeared. The uterus became a little smaller, but the patient

felt very ill; she had been for many years subject to a pendulous abdomen, and this complication caused her much discomfort. On April 2, 1901, 441 days after the cessation of the last period, she was admitted to the hospital, and the next day the fetus, which had always been clearly definable, was removed by Cæsarian section with its placenta. Her recovery was rather slow, but she ultimately left the hospital in good health. The fetus was a female 16 inches long and much distorted by pressure. Such cases are of interest from a medicolegal standpoint.

The Art of Prescribing.

At the present time one of the weakest points of the medical curriculum is the inadequate training given the student in the art of prescribing. Very few recent graduates are able to write their prescriptions in such a manner as to stand criticism. As a result of this deficiency many practitioners prescribe almost nothing but proprietary articles, of which they know nothing, except what they may be able to learn from the advertisements and pamphlets of enterprising manufacturers. The art of combining drugs to effectually meet the various conditions that arise in the patient's condition is one that has been indeed too much neglected. More time should be devoted to the teaching of laws of chemical and therapeutical incompatibility. If this be done the physician would not have to depend upon combinations already prepared for him, and his patients would receive truer and more scientific treatment.

Ancient Law and the Physician.

The laws of Babylon two thousand years before Christ are peculiar in their attitude toward physicians. The writings of Hammurabi tell us that "If a physician operates on a man for severe wound with a bronze lancet and saves the man's life, or if he opens an abscess (in the eye) of a man with a bronze lancet and saves the man's eye, he shall receive as his fee ten shekels of silver. If a physician operates on a man for a severe wound with a bronze lancet and causes the man's death, or opens an abscess (in the eye) of a man with a bronze lancet and destroys the man's eye, his fingers shall be cut off."

How fortunate that we of this latter day are not subject to such stringent laws; it might deter many operators whose fingers are continually itching to use the knife.

ITEMS AND NOTES.

The second Latin-American Congress of Medicine and Hygiene will be held in Buenos Ayres April 3 to 10, 1904.

The Ingersoll lecture at Harvard University this year will be given by Dr. William Osler on "Science and Immortality."

The *International Medical Magazine* has become amalgamated with the *Archives of Pediatrics,* the combined journals assuming the name of the latter.

Secretary Root has transmitted to Congress an estimate of $400,000 as an appropriation for the purchase of land in the District of Columbia for the erection of an army general hospital.

It is stated that Dr. Nicholas Senn, of Chicago, Ill., will shortly go to Japan to assume charge of the medical and surgical corps of the Mikado's army during the current war with Russia.

The Board of Medical Directors of the Cincinnati Hospital have asked for $50,000 additional appropriation to meet the increased expenses of the institution, which were higher the past year than in previous ones.

Although Mr. Curie has been honored with a professorship in the faculty of sciences in Paris, money and space were lacking at the Sorbonne to furnish him with an adequate laboratory. The Pasteur Institute has come to the rescue with the required space and apparatus.

The Humane Society of Cincinnati is trying to collect evidence enough for the arrest of some of the workers in the Cincinnati Hospital Laboratory. These physicians are trying a series of experiments on animals to determine the stages of development of hydrophobia.

A valuable local anesthetic for inflamed tissues can be had by adding a few drops of 1:1000 solution of adrenalin to a half- to one-per-cent solution of cocaine. In injecting this the first result is an anemia of the skin, due to its action on the vasoconstrictors, followed by a deep anesthesia. Incisions can be made into inflamed tissues with the loss of very little blood, and the method is well adapted for furuncles, anthrax, etc.—*Medical Record.*

An electric current accident, as shocking as it was remarkable, is reported from Turin, which is entirely dependent on electricity both for its public lighting and for the city tramway service. An electrician named Berti, in charge of a distributing station, carelessly let his two hands come in contact with an interrupter, thus establishing a short circuit, which enveloped his whole body in flames, and literally roasted him alive. Another electrician, running to his aid, cut the wires, and was himself involved in flames, but not fatally. The accident happened in the evening, and the city was plunged into darkness and the tramway service entirely stopped for three hours.

At the recent Tuberculosis Exposition at Baltimore the following rules for consumptives attracted considerable attention: "Live in fresh air constantly; do not be afraid of cold or damp weather. Be outside all the sunny hours of the day. Avoid overheated and ill-ventilated rooms, and keep the windows of your bedroom open all night. If you avoid a draught of air you need not fear a cold. Do not overclothe yourself; wear woolen garments next the skin, but do not wear more clothes than healthy people wear. A cold sponge bath every morning will make you less liable to take cold. Drink much milk and eat as much as possible even if you do not care to."

The first International Congress of School Hygiene is to be held at Nuremberg April 4 to 9. Addresses are to be made on "What Has Ophthalmology Done for the Schoolchildren, and What Has it Yet to Do?" by H. Cohn, of Breslau; on "The Present Status of School Hygiene in Norway," by A. Johannesen, of Christiania; on the "Hygiene and Personal Illness of the Teachers from the Standpoint of Their Relations to Their Pupils," by Le Gendre, of Paris; on "Organization of the Public Schools According to the Natural Capacity of the Children," by Sickinger, of Mannheim; on the "Task and Training of School Inspectors," by Liebermann, of Budapest; on "Prevention of Infectious Diseases in Schools" and on "Suicides Among Schoolchildren," by Eulenburg, of Berlin.

Dr. Sheldon, of Madison, Wis., says the *Medical Record*, is reported in the New York *Times* as a propounder of the theory that appendicitis is a contagious disease of microbic origin. This hypothesis, he believes, offers the only explanation of the epidemic of the disease which he says now prevails in the country. He would doubtless hold as confirmatory of this theory the story

of three sisters in Augusta, Ga., who were all operated on for appendicitis in one day. The three girls were students at an academy in Washington, Ga. One was attacked on Saturday, another on Sunday, and the third on Monday, and the three operations were performed on Tuesday. They were all brought to Augusta for the operations. The father of the girls was himself operated on for appendicitis a few months ago.

It seems that all the means once reckoned upon as sure to invite colds will have to be considered as obsolete as are the heroic remedies for these afflictions that our grandmothers used. Once it would have been thought extremely imprudent to wash even the face in cold water on a winter morning, and here we are all of us taking icy baths, sponge, plunge, or shower, every morning of our lives as a means of keeping ourselves free of colds and in a generally healthy trim. Nowadays there are all the boys and girls who go bareheaded and don't know what a violent cold is, and the persons who sleep out-of-doors and boast of it, and the army of folk of all ages who will have none of the heavy clothing, to show that the ideas of our ancestors on the matter of "getting cold"—all of them except rare Ben Franklin, who held precisely the views of to-day—were all fudge. We wonder what the attitude of those who compose the generations three times removed from the present one will be on the subject of colds.—*Boston Transcript.*

An exchange states that Prof. Robert Koch, the German scientist, has written from South Africa a letter to a member of the Committee on the Prevention of Tuberculosis of the New York Charity Organization Society, expressing great satisfaction that at last some one has arisen to interfere with the swindlers who have been trading upon his name and reputation. He says: "For my part, whenever opportunity offered itself, I have never neglected to declare that I had nothing whatever to do with Koch Lung Cure, and that these concerns used my name for fraudulent purposes. I would long since have brought suit against these swindlers, but friends familiar with the conditions in America advised against it, saying that according to the law in the United States these impostors could not be prosecuted. I too begin to believe that the only rational way to deal with them is the one taken by your committee on the prevention of tuberculosis. The public should be informed through the press of the outrageous manner in which these unscrupulous people cheat and fleece the unfortunate tuberculous."

NEW PUBLICATIONS.

INTERNATIONAL CLINICS.

This volume of the International Clinics maintains the high standard of excellence already established, and shows that the present editor is unremitting in his efforts to place before his readers contributions of the highest order only. The list of contributors to this volume contains names of distinguished men from various countries, and the table of contents a collection of contributions meriting careful study.

It is difficult among so many good papers to select a few for special mention, but the four papers upon "Treatment" with which the volume opens are of importance, and the names of James Tyson, John H. Musser, Thomas A. Claytor, and Louis Julien will sufficiently guarantee them. Eight papers deal with subjects in clinical medicine, that "On the Importance for Students of Physiognomical Diagnosis in Disease," by Sir Dyce Duckworth, being given first place by the editor, though the papers by Andrew Duncan upon "Tropical Dysentery," and Thomas E. Satterthwaite upon "Palpitation; Abnormal Rhythm; The Frequent Pulse," are deserving of special mention. In the department of surgery the first place is given to "A Case of Interiliac-abdominal Amputation for Sarcoma of the Ilium, with a Synopsis of Previously Reported Cases," by W. W. Keen and J. Chalmers Da Costa. In the Section on Gynecology and Obstetrics, the first place is given to Francis H. Davenport, upon "The Non-Surgical Treatment of Displacements of the Uterus;" under the heading Neurology, a paper by Alexander James upon "Hemiplegia in the Young and Old." There is but one paper upon Orthopedics, and two upon Ophthalmology, and the volume closes with a single paper upon Pathology, "The Present State of our Knowledge of Immunity," by Joseph McFarland.

The International Clinics. Volume IV, 13th Series, 1904. Edited by A. O. J. Kelly, A.M., M.D. Philadelphia: J. B. Lippincott & Co.

THE PRACTICAL MEDICINE SERIES.

The December, 1903, number of this series gives its usual thorough and satisfactory summary of the year's progress in the provinces of Ophthalmology, Otology, Rhinology, and Laryngology. The book is quite up to the standard of this excellent series, and is provided with a competent index both of subject and authors. It may be remembered that this series of reviews is founded on the Nose and Throat Year-book of other days. It is refreshing to find a book that is not specifically dedicated to "the medical student and general practitioner." This volume is up to the standard, and its very complete line of general references adds a great deal to the library of the physician working along these special lines.

The Practical Medicine Series of Year-books: Eye, Ear, Nose, and Throat. Edited by Casey A. Wood, Albert H. Andrews, and Gustavus P. Head. December, 1903. Chicago, Ill.: The Year-Book Publishers.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Practical Points on Hernia.

F. D. Gray (*Medical Record,* Feb. 6, 1904) emphasizes the following points:

Never forget the possibility of an unsuspected incipient or small hernia, as a possible cause of obscure abdominal symptoms or of obstruction.

Always remember the unusual as well as the ordinary locations of hernia.

Never practice taxis or delay operation in strangulated cases, nor neglect to open the sac and carefully inspect the contents.

Bear in mind the simple problem of radical cure—restoration of smooth, flat peritoneum at the ring, and narrowing or closure of rings and canal, with peritoneum, aponeurosis, and muscle as building materials.

Transplantation of the cord is not an essential of the Bassini or of the Halstead method.

A successful operation on inguinal or femoral hernia dispenses with the necessity for even a temporary truss, but after a cure of umbilical or ventral hernia a well-fitting abdominal supporter is a comfort.

Removal of the entire sac is not always necessary, and in the inguinal variety the distal portion is better left than to risk injury of the cord by a difficult and tedious dissection.

The radical operation is one of the safest and most certain in surgery, and on that account may properly be advised as routine measure.

On the other hand it should be remembered that in childhood all forms of hernia are usually curable by persistence in the use of a suitable truss, while after thirty-five the mortality rate increases, and as activity usually then decreases, a truss answers very well.

Finally, young and middle-aged adults—especially males pursuing an active life—ought by all means to have the benefit of an operation which carries practically no danger, relieves them from the discomforts and dangers incident to wearing a truss, and the inevitable, even if small, risk of strangulated hernia.

A Contribution to the Study of Visual Disturbances in Brain Injury.

W. E. Gamble (*Journal of the American Medical Association,* Jan. 23, 1904) says a cortical lesion the size of a 32-caliber bullet involving the greater part (posterior) of the third and fourth left temporal convolutions, and bruising of extreme anterior end of inferior occipital convolution, and a subcortical lesion penetrating the middle occipital convolution at the same level, produce verbal amnesia, especially for names of objects seen and having been seen, particularly those which have proper names (concrete nouns), and for names of colors, especially names of special shades, such as Bismarck brown, etc. (amnesic color blindness), and pure word blindness (alexia), which may be in part a form of visual verbal amnesia.

Verbal amnesia is a result of lesions in the cortex of the third and fourth temporal convolutions, left hemisphere, and injury to cortex of anterior end of inferior occipital convolution.

The amnesic color blindness and alexia result from subcortical lesion in left middle occipital convolution.

The reacquirement of these functions in a man twenty-eight years of age is a slow, tedious progress of education of the specialized though undeveloped cells of the right hemisphere, requiring years for even partial accomplishment.

Injury to the optic radiations of Gratiolet may produce a negative scotoma, contrary to the teaching that such a lesion produces positive scotoma.

Primary atrophy of the optic disks occurs in lesions of the left temporo-occipital region.

Experiments with the McGraw Elastic Ligature.

F. T. Murphy (*Boston Medical and Surgical Journal,* Jan. 28, 1904) concludes from his experiments on animals that a successful anastomosis between the stomach and intestine or two loops of intestine is possible by means of the elastic ligature. The method is not applicable when immediate opening is required. The time of the cut-out varies, depending upon the character of the ligature, the method of application, and the resistance of the tissues in any case, but the ligature will ultimately cut out. A knot at either end of the elastic loop increases the rapidity of the cut-out. The pinching of the gut by the ligature seems to cause no bad symptoms. The serous surface of the outside of the joint when completed is smooth. The anastomosis by gross or micro-

scopical examination shows no evidence why there should be any greater tendency to contraction of the opening than with the ordinary methods of intestinal suture. The procedure causes a minimum operative risk, both as regards shock and infection. Adhesions across the opening are a possible, but not a probable, complication. The writer believes that in cases in which an immediate opening of the bowel is not imperative, and in which the avoidance of operative shock is an important factor, the elastic ligature may prove to be the operation of choice in gastro-enterostomy and lateral anastomosis.

Abscess of the Maxillary Sinus.

M. Jarr recently contributed a paper (*Lancet,* Jan. 23, 1904) dealing with the importance of the etiology of the disease in the treatment of abscess of the maxillary sinus. In the great majority of cases an abscess of this character has its origin in some dental trouble, and not primarily in an inflammation of the mucous membrane lining the sinus. If the cause be removed a rapid cure generally follows, and this removal may be brought about by one of the following measures: extraction or conservative treatment of a decayed tooth, extraction of a root left after attempted extraction of the whole tooth, extraction of an unerupted tooth, or extraction of the affected tooth with removal of any fragments of necrosed bone. The secondary affections of the maxillary sinus heal up after removal of the offending cause, and it is but rarely necessary to interfere with the antrum of Highmore itself.

The Closure of Abdominal Wounds and Hernial Apertures with Buried Metallic Plates.

T. Indardi (*British Journal of Gynecology,* December, 1903) in operating for hernia uses metal plates with a raised and thickened smooth and blunt edge, which he inserts directly upon the peritoneum, or after resection of the hernial sac upon the peritoneal stump. They cause no inconvenience, and have proved satisfactory in more than fifty cases, even in two that subsequently became pregnant. He considers that they offer firmer support and are less likely to cause pain from tension than mattress wire sutures. For some years he has invariably used metal for all buried sutures.

Hernia in Young Children.

W. B. De Garmo (*Medical Record,* Feb. 13, 1904) says the indications for operating on hernia in early life may be tabulated as follows:

1. Strangulated hernia—immediate operation.
2. All cases not controlled by truss.
3. Occasional protrusion with threatened strangulation.
4. When truss-wearing causes pain.
5. On children that cannot be brought regularly for attention.
6. In all cases of femoral hernias.
7. On all children over seven years of age.

The Pneumococcic Peritonitis of Children.

F. Gaite (*Revista di Climia Pediatrica,* December, 1903) says that pneumococcic peritonitis is a very frequent disease of childhood. Among female children there is found a predisposition toward it. There are, according to the writer, various pathogenic varieties of the peritonitis. It can originate from the spread of pneumococci from the intestines, from the pleura, from the female genital tract, and probably also from the blood. In cases of early intervention the prognosis for a localized infection is good. In cases of diffused infection it is doubtful.

Early Operations in Abdominal Troubles.

E. M. Pond (*Medical Record,* Jan. 23, 1904) says if you wish to do right by your patients who put their utmost confidence in you, diagnose and operate early. If you wish to be conservative and have a small death-rate, diagnose and operate early. If you wish to be up to date and have the respect of the medical profession and help its cause along, diagnose and operate early.

MEDICINE.

Physiological or Functional Albuminuria.

S. West (*Lancet,* Jan. 16, 1904) says that albuminuria may occur as a transitory symptom in persons who, except for this symptom, may be judged to be perfectly healthy, for they appear to be so at the time and remain so. But it may also occur in persons who, though they appear at the time to be healthy, develop

signs of disease subsequently. It is difficult to distinguish at a given time between those who will remain well and those who will not. It is difficult to exclude for certain many of the pathological causes to which the albumin may be due. In other words, though there may be no proof that these causes are present, there is equally no proof that they are absent, and in some cases the result shows that they were not absent. Speaking generally, the larger the amount of albumin in the urine and the longer it persists, the greater the probability of some permanent disease. Continued observation of these cases shows that the so-called physiological albuminuria does very appreciably increase the risk of life, and that this risk grows rapidly with every year of age after thirty years. As a result of the foregoing proposition the author is led to the general conclusion that functional albuminuria is never, strictly speaking, physiological at all, but that it is on the contrary always pathological though not necessarily renal.

The Differential Diagnosis of Typhoid Fever in its Earliest Stages.

W. C. Rucker (*American Journal of the Medical Sciences,* January, 1904) draws the following conclusions: (1) There is no single symptom in which alone an early diagnosis of typhoid fever can be made. It is only by careful consideration of the symptom-complex that a clinical diagnosis can be arrived at. (2) The most trustworthy as well as the earliest sign of typhoid fever is the presence in the circulating blood of the bacillus of Eberth. (3) The demonstration of the bacillus of Eberth in the blood is not beyond any fairly well equipped laboratory. (4) The bacillus of Eberth is found in the feces later than in the blood, but with comparative ease. (5) The presence of the bacillus typhosus in the rose spots is a trustworthy sign, but has no advantage over the examination of the blood from other localities. (6) The serum reaction of Widal is seldom demonstrable during the earliest stages of typhoid fever. It is of value only in the higher dilutions.

New Aspects of Yellow Fever Etiology.

Carlos J. Finlay (*Journal of the American Medical Association,* Feb. 13, 1904) says the minimum number of days (estimated at ten or twelve by the Yellow Fever Army Board) which must elapse after the stegomyia has bitten a yellow fever patient,

before the infected insect is able to inoculate the disease through its bites, must represent a series of transformations in the body of the contaminated mosquito, including:

(*a*) Introduction of young sporozoits sucked up with the blood of the patient.

(*b*) Growth of the sporozoits to adult age.

(*c*) Formation of schizonts and merozoits.

(*d*) Formation of gametes.

While in the body of the non-immune, counting from the moment of his inoculation by the infected stegomyia, the following stages are likely to take place during the period of incubation:

(*a*) Localization of the gametes in appropriate sites.

(*b*) Fecundation of the macrogametes by the microgametes of the yellow fever germ.

(*c*) Formation of the oökinet and development of the oöcyst in appropriate cells (endothelial?)

(*d*) Discharge of free sporozoits of yellow fever into the circulating blood (perhaps too small to be recognized with the microscope).

(*e*) Development of the toxemic symptoms characteristic of the invasion of yellow fever, in the inoculated non-immune.

The Controlling Influence of Environment in Epidemic Infectious Diseases.

J. W. McLaughlin (*Texas Medical Journal,* January, 1904) says that the pathogenicity of microörganisms is not a constant invariable quantity. The pathogenic activity of a microörganism varies directly with its capacity to manufacture disease-producing substances—toxins and toxalbumins.

The capacity of a microörganism to manufacture toxins or toxalbumins is affected by certain natural and artificial agencies; the change effected in the microörganism is called "attenuation."

The agencies or means used to attenuate germs—that is, to decrease their pathogenic activity—are unfavorable culture media, or are conditions of life in which the germs are compelled to grow.

Sunlight is a powerful, natural attenuating agent.

In the light of these facts the writer says he feels justified in the belief that there are other natural means of attenuating the microörganisms of disease, and in this way of modifying the type of epidemics, or of preventing their development.

The environmental conditions, for example, of cleanliness of

the person, of the home, and of the municipality; of pure air in the home, the office, and place of business, in the schoolroom, church, and in all places where people congregate and germs find a breeding-place; of drainage, temperature, humidity, altitude, and climate, are believed to be very important factors in determining the growth and the physiological capacity of germs to manufacture disease-causing poisons.

Chicken-pox Concurrent with Smallpox.

P. D. Bourland (*Medical News,* Jan. 2, 1904) says the concurrence of smallpox in no way caused the course of his cases to depart from that typical of chicken-pox. Vaccinated and unvaccinated children showed equal susceptibility to infection, and the course of the sickness was the same in each class. This fact excludes varioloid. None of his patients had ever been exposed to smallpox or had ever had it. No adults were attacked notwithstanding absence of vaccination in a majority. Five of the children exposed had had chicken-pox in a previous epidemic, these previous attacks conferring immunity, except in one instance. Smallpox and chicken-pox are distinctly pathological entities, and though in intimate association neither disease influences in any way the natural history of the other.

The Pancreas in Cirrhosis of the Liver.

Steinhaus (*Deutsche Arch. f. klin. Med.,* Bd. 74) finds that in patients suffering from cirrhosis of the liver there is frequently a reduced assimilation of sugar. This malfunction he does not attribute to the change in the liver, but to an associating pathological condition of the pancreas. In all of the twelve cases he examined he found an interstitial pancreatitis, which he considers to be of great significance, as in the majority of cases of diabetes a functional disturbance of the pancreas may be demonstrated.

Immunization of the Human to Typhoid.

Shiga (*Berl. klin. Wochenschr.,* No. 4) immunized two individuals with a 24-hour agar culture of bacillus typhosus which had been rubbed up with 5 cubic centimeters of a physiological salt solution heated to 60° C., and then kept for two days at a temperature of 37° C. and filtered through a porcelain filter. The

serum of the two people treated evidenced a decided agglutinative property for the typhoid bacillus, as well as a bactericidal power, and the author concludes that this operation is devoid of danger and probably of practical value.

Biliary Colic Without Gall-stones.

Kruckenberg (*Berlin. klin. Woch.,* 1903, No. 29) calls attention to the fact that a kinking of the bile-duct without the presence of a stone may cause severe colic, and reports two cases which were operated on for this reason. In both these cases neither stone nor inflammatory change was found, though the fundus of the non-adherent gall-bladder reached down to the umbilicus. The author calls this condition floating gall-bladder, and refers the attacks of pain to the kinking of this organ. The operative measures employed were those to decrease the size of the organ and fasten it to the abdominal wall, and the colic in both cases was completely relieved.

THERAPEUTICS.

Adrenalin in Addison's Disease.

H. M. Raven (*British Medical Journal,* Jan. 16, 1904) relates the following use of adrenalin in Addison's disease:

About a year ago he was called to see a middle-aged lady who had been seized with severe and recurring epileptiform convulsions.

In 1893, after scarlet fever, she was noticed to have some undue pigmentation of the skin. During the next four years she began to be troubled by attacks of diarrhea and vomiting, and soon afterward had fainting attacks; pigmentation slowly increased. In 1901, while abroad, the syncopal attacks became so severe and frequent that the condition seemed hopeless, and it was with the greatest difficulty that she was brought home. She was now treated for the first time with suprarenal tablets, and though very weak and with occasional fainting attacks, she seemed better.

She had been comparatively well up to the time of the convulsions, which came on suddenly one morning. They became so frequent and severe that chloroform was administered, and this effectually arrested them; but the condition of the patient was critical in the extreme, the pulse very rapid (120 to 150), and so

small as to be hardly perceptible. She lay in a comatose state for nearly a week, during which time she was fed with a nasal tube and stimulated freely with brandy and hypodermic injections of strychnine.

All the characteristic symptoms of Addison's disease were present, the pigmentation general, of a blue-bronze color, and most marked on the abdomen, in the folds of the skin, and around scars; it was present also in the buccal and other mucous membranes; the emaciation was marked, the pulse tiny and thready, yet the heart sounds were normal, regular, and comparatively strong, and there was no cardiac dilatation.

On the fourth day after the convulsions she was given 5 minims of a 1-in-1000 solution of adrenalin (Parke, Davis & Co.) three times a day, and gradually, as consciousness returned, at the end of the week the circulation began to improve. There was no return of the convulsions, and in a fortnight the doses were increased to 10 minims; at the end of a month she had improved wonderfully, the pulse (80 to 90) was fuller and stronger, and there was distinct diminution in the amount of pigmentation. The dose was increased to 20 minims, and later to half a drachm, three times a day, but it had to be reduced from time to time on account of the pulse becoming too small.

The patient has steadily improved in strength and weight, and the asthenia, which at first was extreme, is beginning to pass off, and to-day—eleven months from the commencement of the treatment—she is able to get about all day and play croquet. The pigmentation cleared off to a large extent during the first four or five months, but there has been little change in this respect lately. There has been no recurrence of the old symptoms, fainting fits, and gastrointestinal disturbances, and it is to be hoped that she will continue to improve and keep well, provided she continues the use of the adrenalin; at present she takes it in doses varying from 10 to 20 minims.

The Feeding of Infants.

At a recent meeting of the Paris Academy of Medicine M. Budin (*Lancet,* Jan. 23, 1904) read a paper on this subject. Convinced of the dangers of overfeeding, even when the infant is breast-fed, M. Budin laid stress upon the necessity for regulation of the infant's meals. The infant at the breast should be regularly weighed, and the quantity of milk taken at each meal should be verified by weighing the child before and after sucking, if,

that is to say, its increase in weight appears to vary. Gastro-enteritis, which kills so many infants, is a question not only of the quality of the milk but also of the quantity. If the infant is bottle-fed together with milk from the breast the same precaution should be taken. Underfeeding is better than overfeeding, for then the child simply ceases to increase in weight, whereas over-feeding gives rise to digestive troubles which impair nutrition and cause rapid wasting. Absolute bottle-feeding should not be thought of unless the mother has not even a trace of milk, and of all the children who come to M. Budin's consultation rooms scarcely five per cent are purely bottle-fed. M. Budin has the greatest objection to this mode of feeding during the early months of life, for he considers it both difficult and dangerous, and although there are undoubtedly fine children reared in this way, yet it cannot be said that they have run no risks.

When the infant is some months old and weighs some five or six kilogrammes, a diet of exclusively sterilized cow's milk may be employed in quantities of 100 grammes per kilogramme of body weight, presuming that the milk is pure and contains 30 grammes of fat per liter. These are mean figures which may have to be modified by the medical man in accordance with the exigencies of any particular case. If the child be fed in this way and the results are not good, the milk should be analyzed, and it will for almost a certainty be found that it has been either deprived of its cream or else watered. During the second year of life milk should still furnish the basis of the diet, but to it may be added some farinaceous foodstuff. Bouillon is useless and only slightly nutritive, one liter of bouillon not having the same nutritive value as 100 grammes of milk. Eggs are not advisable, especially for the poor, who can rarely get them of good quality. On an exclusively milk diet, or on one with a little farinaceous food added to it, infants can be seen who at the age of two years weigh from 11 to 13 kilogrammes, with a daily ration of from 1000 to 1050 grammes of food.

M. Budin's results, which he obtained together with his fellow worker M. Planchon, are particularly good. Out of 712 infants who were brought to him and whom he was able to follow up daily, the mortality was only 4.6 per 1000, whereas the mean for all Paris is 178 per 1000. No infant died from digestive troubles, of which the mean official mortality is 65 per 1000. Both infectious and pulmonary complaints occurred in far lower proportions than in Paris as a whole, which argues a greatly increased resistance on the part of the infants under observation.

Surgical Treatment of Male Sterility.

Martin and Pennington (reprints from Wm. Pepper Laboratory of Clinical Medicine, No. 3) have made a number of studies upon spermatozoa with a view to establishing the morphological conditions which are associated with fertilizing power. They believe that the best test of this is motility, and that on general principles the persistence of motility is of more importance than their vigor. Abnormal forms such as those with twin heads or twin tails were not observed by the authors to move, and are hence inferred by them to be devoid of fertilizing power. They were unable to determine whether passage through the epididymis and vasa deferentia exercised any influence on the fertilizing power of the spermatozoön, although they found some evidences of a morphological change during the process. They further turned their attention to the problem of remedying sterility resulting from an azoöspermia consequent upon a double obliterating epididymitis. Three experiments were performed upon dogs, in which a portion of the vas was excised and the remainder attached to an incision in the epididymis; in all these cases it was found that spermatozoa were ejaculated after the wounds had healed. An operation was then undertaken upon a man in whom repeated examinations had shown the presence of an azoöspermia following gonorrheal epididymitis, which the authors consider very rarely to lead to complete obliteration, and which, as usually happens, occurred in the tail of the epididymis. Nineteen days after the operation motile spermatozoa apparently healthy were emitted; they belong to the type observed in the epididymis when removed after death. Whether the anastomosis which had been formed was persistent, and whether the spermatozoa were fertile, had not been determined when the paper was written.

Therapeutic Application of Normal Gastric Juice.

Mayer (*Therap. der Gegenwart,* December, 1903) procured normal gastric juice from pigs by means of an artificial fistula, and employed this with good results in the treatment of achlorhydria. The treatment was continued from five to seven weeks, using varying doses. In severe cases 15 cubic centimeters was given during and after meals, and to stimulate the appetite 10 to 15 cubic centimeters was administered one-half hour before meals. The taste and odor of this preparation is not disagreeable, so that it is easily administered with a little peppermint, and in some cases it was given with lemon or beer.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Circular Lacerations of the Cervix During Labor.

A. Bondreau (*Centralbl. f. Gyn.,* December, 1903) reports seven cases which show that with careful antisepsis the above accident may happen without detrimental results to the mother. He places edema in the foreground as the first hint of danger, and therefore when this is present the course of labor must be most carefully watched. The fundamental cause of the phenomenon is described to be feeble uterine contractions, with deficient expansion of the os uteri. The only pathological lesions to be detected in the tissues of the lacerated part by microscopical examination are extravasations of blood and edematous infiltration. The partially detached portions should be cut away with scissors.

Salpingitis and Pregnancy.

D. Vessian (*British Gynecological Journal,* February, 1904) says that when the salpingitis is unilateral pregnancy is possible, and if the inflammation is declining may have a favorable effect; but pregnancy in the early stages of salpingitis is very liable to be interrupted. Moreover, the sac may open into the abdominal cavity and cause fatal peritonitis, as has been known to occur. The treatment as a rule should be medical, the instances in which surgical interference can be advised being most exceptional.

Panhysterectomy Compared with Supravaginal Amputation.

Bertrand (*Centralbl. f. Gyn.,* No. 36, 1903) insists on the advantages of the intraperitoneal treatment of the stump in supravaginal amputation of the uterus, still more on those of the retroperitoneal treatment; but as an ideal operation he recommends total extirpation as affording the greatest security against infection and hemorrhage from the pedicle, and the possibility of subsequent malignant new growths in the stump.

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ORIGINAL CONTRIBUTIONS.

PATHOLOGY OF LOBAR PNEUMONIA.

BY R. W. KNOX, M.D., HOUSTON, TEXAS.

In taking a retrospective glance at the history of pneumonia and the various theories that have been advanced regarding every phase of the disease, we are forcibly reminded of the adage that "Times change and we change with them."

It is not necessary to search the archives of the renowned Watson, or the gifted Meigs and Pepper, to get ancient history regarding pneumonia. We have only to look up our modern text-books dating back not more than half a score of years, and to contrast the ideas therein advanced with the more recent literature, to appreciate the iconoclastic hand of modern research.

How little did we imagine a few years ago that pneumonia was an infectious disease, and that care should be exercised to prevent its spread as in other epidemic diseases. Nor is this our only surprise: a recent writer in the Twentieth Century Practice of Medicine proves at least to his own satisfaction that an uncomplicated case of lobar pneumonia is not an inflammatory process.

These revolutionary theories regarding the pathological processes involved in this disease began with the discovery by Fraenkel in 1884 of the diplococcus pneumoniæ. This microorganism was isolated by Sternberg a few years before this date, and was obtained from his own saliva, but no causative relation was supposed to exist between this germ and a disease of the lungs.

While it is true that the pneumococcus does not answer all of Koch's celebrated laws as a causative agent, its invariable presence in pneumonia, together with its behavior in other respects, leads us to believe that it takes a high rank as an etiological factor.

The first question that naturally presents itself is, How and under what circumstances do the germs gain access to terminal bronchioles and air cells? They are invariably found in healthy saliva and in the secretion of the larger bronchi, and their presence in these locations does not seem to be conducive, under ordinary circumstances, to any special harm.

From what source they come we have not been able to even so much as conjecture. It may be possible that the germ has no saprophytic existence, but that its normal habitat is the buccal and respiratory secretions. It is the generally accepted theory that the germ assumes a pathological significance only when there is a lowered vitality or lessened resistance on the part of the body.

The analogy is borne out in the case of the bacillus tuberculosis. We all come in contact with this germ, but only a certain per cent contract consumption. This lowered resistance may be brought about by exposure and taking cold, or probably, as is often the case, by one of the exanthematous diseases. It is certain that the normal lung does not allow such an invasion. The irritation set up on the delicate alveolar structures by the presence of the invader causes the pouring out of a fibrinous exudate from the functional capillaries. This is the material which causes the consolidation of the lung, but more important than this, furnishes a culture medium for the propagation of the active agent, and the development of a most virulent toxin.

The chill that is so often seen in pneumonia is thought to be caused by the absorption of a certain quantity of this poison; also that the degree of fever is an outward indication of the amount of poison circulating in the blood. After a variable length of time, usually from four to eight days, a crisis occurs, the fever drops nearly to normal, and the entire aspect of the patient is changed.

In no other disease do we have such a sudden defervescence of such serious symptoms. While the physical symptoms in the lungs appear unchanged, the appearance of the patient, his feelings, temperature, etc., have made a sudden and most remarkable improvement.

Various theories are advanced to account for the crisis in this disease: First, the accumulation of a free acid in the parenchymatous structure of the lungs deposited by the nutritive capillaries. The failure to neutralize this by the soda of the blood is due to the blocking of the functional circulation. The acid in this case acts as an antitoxin. Secondly, in laboratory

experiments the pneumococcus is known to be short-lived, and soon exhausts itself in any culture media if the same is not replenished. An identical process is thought to take place in the air cells, the pneumococcus exhausting its culture medium, and in consequence failing in the further production of pneumotoxin. Thirdly, the antitoxin theory. To the Klemperer brothers is due the advancement of this idea. Their claim is that the pneumotoxin produces an antitoxin, which in turn neutralizes the original poison. They have made numerous experiments upon the lower animals in confirmation of this theory.

One of the most remarkable facts in connection with an uncomplicated case of lobar pneumonia, besides the crisis, is the rapidity with which the lungs are cleared, and the small amount of damage done to the delicate alveolar structure.

In no other organ except the lungs could such a result be possible, and the reason for it is explained in Dr. A. H. Smith's excellent article on pneumonia in the Twentieth Century Practice of Medicine. He states that the bronchial arteries, which perform a nutritive function to the lung structure, play a most important part when the pulmonary circulation is blocked. They hasten secretion and relieve the congestion, which would otherwise be fatal to the lung structure. It is important also to note that the gravity of the symptoms and height of fever is not dependent upon the amount of lung involvement. In some of the most serious cases a careful examination may only reveal a small spot of involvement, and cases are on record where the physical examination was entirely negative, and yet the patient succumbed to the disease.

In all these cases the breathing is just as rapid as if the entire lung was involved. From these facts we are of the opinion that the inflammation of the lungs, if such really exists in the true sense of the term, cuts but a small figure in the pathological process; that the lungs in fact only act as a culture field for the development of a poison which affects the entire system, and has a tendency to paralyze the circulatory and respiratory systems; that this poison has a self-limited course, and if the patient is able to withstand its violence for a certain length of time, a perfect recovery is assured. This of course will only apply to uncomplicated cases of lobar pneumonia, as in all other diseases complications are liable to arise, and the course of the disease is modified accordingly.

In the very old, or the very young, in alcoholic or tuberculous subjects, resolution is not so liable to occur, and the disease may

run a protracted course; also in rare cases the pneumococci may invade other organs, among which may be mentioned the meninges of the brain, the pericardium and endocardium, and also the kidneys.

Pneumonia differs from all other infectious diseases, in that one attack, instead of giving immunity, on the contrary predisposes to a recurrence.

In summing up the situation we might state conclusively that pneumonia is an infectious disease; that it is due to a minute form of animal life, known as the diplococcus of Fraenkel; that it is found in health in the secretions of the mouth and bronchial tract; that for some unknown reason, due either to a lowered vitality on the part of the system or an increased virulence on the part of the organism, the natural barriers to the lung cells are thrown down and the disease begins its course.

While it is true that the pneumococcus of Fraenkel does not answer all the indications of lobar pneumonia, it is the most rational hypothesis yet proposed for a disease whose pathology has always been shrouded in the deepest mystery.

THE ETIOLOGY OF SPEECH DISORDERS.

BY JAMES M. BROWN, M.D., CHICAGO.

Among the first observations that were made as to the relative causes of faulty speech, which were of scientific value, were those of Avicenna in the year 1000, who, in recognizing the presence of speech defects, considered them to be due to lesions of the brain or nerves, and to spasm of the epiglottis. He mentioned the epiglottis evidently because of lack of knowledge of the organs and muscles concerned in articulation. Many observations have been made since, some of them curious, but a few of importance from a medical standpoint.

The processes of speech are mechanical and intimately associated with mental operations. The mechanical processes are liable to be mismanaged, and the intellectual associations may become imperfect. When the organs of articulation are prevented from passing from one vocal position to another, and articulate so loosely that they rebound in contact, the impediment is termed stuttering; and when the condition becomes exaggerated it is termed stammering. To simplify, stammering is a stoppage, and stuttering a hesitation, of speech.

For the correct production of speech two mechanisms, acting

in perfect coördination, are necessary—the larynx, which is the producer of vocal element, and the mechanism or element by which the sounds of the larynx can be modified in tone and timbre, as they pass through the oral cavity, and by which new sounds produced within the mouth itself can be added to the vocal tones of the larynx. These two mechanisms must act together. If there be inexactitude or delay in the production of the vocal element, speech is at once interrupted and becomes discordant and laborious.

It is an interesting fact that, no matter how hard a person may stammer when talking, the pronunciation in singing will almost invariably be good, due evidently to the intonation or singing upon a single note. Speech disorders usually occur in children, and are most frequently observed between the ages of four and fifteen. Some children, perfectly healthy, and having no hereditary tendency, may acquire the defect by imitation, and the encouragement of the so-called "baby talk" is more harmful than is ordinarily supposed. Defective intellect can hardly be put down as an important etiological factor, but persons of a neuropathic taint are more prone to affections of speech, although in many cases it is liable to be a result rather than a cause of the defect. However, it is frequently associated with and aggravates the condition.

A course for stuttering children was given in the public schools in Berlin, the report of which is interesting. The number of participants in the class was 194—146 boys and 48 girls, varying in age from seven to fourteen, the average being twelve years. Upon investigating the cause, it was found that about 92 were not below the normal intellectual standard, while 49 varied between normal and weak. As to hereditary disease, there was a nervous and mental history in 29, alcoholism in 16, epilepsy in 12, stuttering in 7, and defects of hearing in 5.

Among the diseases from which the children had suffered, there were recorded measles, scarlet fever, diphtheria, inflammation of the lungs, chicken-pox, and rachitis. Twenty-four children had been free from all diseases. In 124 cases it was found that the speech developed at the proper time and normally, consequently stuttering did not commence simultaneously with speech.

Sudden violent emotion, or a severe fright, is an important factor in disordered speech, especially if the person be of a naturally hysterical disposition. Among the less common, but nevertheless important, causes of faulty speech may be malforma-

tions and abnormalities of the uvula, bulkiness of the tongue, enlarged frenum linguæ, and cleft palate. Enlarged tonsils have an effect upon the tone of the voice, and the frequency of articulation. They may produce thickness of speech, and there seems a direct influence upon the impeded enunciation.

There is no one treatment that is applicable to all cases of speech defect, for the reason that there are many varieties of it, and the prognosis, for the most part, rests with the patient and upon his intelligent comprehension of the principle to follow.

The power of fluent speech is a possession which all should strive to attain. Sir James Paget, in his Memoirs, dwells upon the clearness and fluency of articulation, which gained for him many appointments of good repute; the only difficulty experienced, however, was in obtaining what was worth saying.

The direction of organic action should be from close to open —that is, from consonant to vowel; whereas the prevailing habit among speakers is to make the action from open to close, or from vowel to consonant. The effect is that vowels, instead of having a free channel through the mouth directly from the throat, are, as it were, squeezed between consonants, cut short, and often altogether lost.

Justly, these cases of speech disorders should be placed under the care and observation of the physician, who upon recognizing the cause of the faulty speech can take the proper steps for ultimate relief, and not taken to the advertising quack with secret methods, etc. A casual observation of a case of faulty speech will readily convince one that similar cases should be placed under the care of the competent physician.

INCIPIENT AND ACUTE INSANE—RECOVERABILITY AND THE FACTORS THEREIN.*

BY J. E. COURTNEY, M.D., DENVER.

I do not pretend to have anything distinctly new, but simply want to present and review a few facts in regard to the recoverable insane, which I believe established, and which at least have been impressed upon me by a somewhat large experience. The tremendous importance of the subject is attested by the frequency of insanity—about one in every three hundred of the population in America and England, and nearly one to every two hundred in Ireland. New York State alone shows nearly 26,000 regis-

*Read before the Rocky Mountain Medical Association, 1904.

tered insane in a population of seven and a quarter millions, one in about every 280 of the population. The class of the insane in which recovery pertains in a high degree is very limited; the time also—three to six months—in which cure must be accomplished is short. Psychiatry and neurology are now jointly directing much attention toward the earlier and earlier recognition and treatment of this class.

Incipient and Acute Cases.—By incipient in this connection I mean those effects of physical and psychical causes to which any one may be subjected, but which in individual cases produce especially disorder of the brain, so that mental symptoms are the prominent symptoms, but not yet so pronounced as to constitute certifiable insanity—for example, the depression and foreboding preceding actual melancholia, antedating delusions of self-abasement or of threatened disaster, drug and alcohol habituism with hallucinations and delusions, which can as yet be corrected; hysteria and neurasthenia, if insanity is developed, are for varying periods before in its incipiency, the fact being frequently recognized in retrospect. The recognition of this incipient stage, as distinguished from developed insanity, in which appear confusion, hallucination, and delusion, on which insanity may be so surely predicated as to warrant physicians, family, and jury in taking the step of formal commitment, is most important.

The last report of the Massachusetts Board of Lunacy says: "Patients are constantly coming to notice during the incipient stage of mental disorder who might never have to enter an insane hospital if they could obtain relief from unusual stress, or be removed from unfavorable environment, or have the advice and supervision which might be afforded through the out-patient department of a hospital."

Pathology.—But little is positively known as yet of the true pathology of these cases. We say there are spasms of cerebral vessels with anemias, pareses of vessels with hyperemia and edema, but these phenomena may exist without disease of mind. This very sparsity of pathological data has led to various theories regarding the conduct of the brain elements, the neurons—for example, the retraction theory, the protrusion and retraction of the nerve processes, thus making and breaking the circuits, and so regulating an interrupting consciousness. But this seems too roughly mechanical. It appeals to us more, following Loeb's suggestions, to think of the brain cells as electrochemical units and the cell processes as connecting wires, so to speak.

Observers have found tumefactions of the projections of the cortical cells, retraction or loss of branches; yet these are really gross changes, and have mostly been experimental findings in animals, and the mental condition of the animals, confusion, lethargy, corresponded to terminal rather than recoverable phases of insanity in man. Thus the classifications of insanity are still symptomatic of the mental condition rather than the pathological state of the brain.

It appears that the divisions of insanity should be more a matter of phases than of forms. That is the tendency. There have been as many as thirty divisions of melancholia made. A recent work of Berkley, of Johns Hopkins, gives only five. In the recoverable cases, the lesions, if visible by any means, must be extremely fine and difficult to separate from post-mortem changes and artifacts. Pathology here, as function, must be more subtile and elusive than in a secreting or excreting organ; certainly it is not definitely known.

As to the non-recoverable insane there is abundant pathology: thickenings and density of the cranial bones, adhesion of the dura, milky cloudiness and thickenings of the pia, interrupted gelatinous deposits along the course of pial vessels, causing the familiar sago grain appearance; extravasations of blood, or the stains left after absorption; adhesions between the pia and cortex; atrophy of the convolutions, and excess of cerebrospinal fluid—these are the oft-repeated recordings on the autopsy blanks of the large asylums. But these phenomena belong to the terminal states of insanity, more or less promiscuously found, and not appearing in groupings positively characteristic of particular forms of insanity, except perhaps the so-called worm-eaten appearance of the cortex on removal of the pia in general paresis.

The diseased condition of the cerebral arteries is very well understood, but these also belong to the grosser lesions. The heavy annual mortality in the insane, one in ten as against one in fifty and over of the general population, is made up largely of cases in the terminal phases of the disease.

The Recoverable Class.—The recoverable class of the insane then is very small, to wit: Incipient cases, melancholia in its simple and acute stages, acute mania; the temporary dementia which at times appears in the course of these, and a few cases of apparently acute dementia. Now in this select class the recovery rate is very high, 75 per cent or better.

Factors in Recovery.—The most important factor then for recovery is the earliest possible recognition and treatment of these

cases. There is evidence enough of the harmfulness of delay and the rapid diminution of prospect of recovery. The statistics of institutions are so uniform on these points that correctness of observation cannot be doubted. The percentage of recovery in the types of insanity I have outlined, in which the attack has existed three months and less, is upwards of 50 per cent of all the recoveries, and after a duration of six months previous to admission the recovery rate falls rapidly.

Likewise a review of the period under treatment of those that recover shows upwards of 50 per cent doing so in six months and less; when recovery does not occur in six months the prospect shrinks more than 50 per cent. In few medical or surgical diseases is the risk of chronicity so great, in none so disastrous.

At the Binghamton State Hospital of New York for 1902, of the 55 recovered, 22 were insane less than a month, 44 less than six months; and 47 of these 55 recoveries were under treatment less than one year.

The Massachusetts State Board of Lunacy in its report for 1900 takes a most pessimistic view. It rates as curable only 317 in a total of nearly 7000 under treatment in the State—less than seven per cent. The biennial report of the Colorado State Insane Asylum for 1901 and 1902 shows 49 recoveries in a population of a little over 500; one-half of these were under treatment less than five months. In this same period there were admitted fifty persons in whom the attack had existed six months and under. The much more frequent admission of insane to general hospitals, the more liberal laws for voluntary commitments and temporary detention, are recognitions of the supreme importance of early treatment.

In 1900 at the McLean Hospital, the department for insane of the Massachusetts General Hospital at Boston, 84 of the 165 admitted, more than half, were voluntary commitments. There are such strong reasons for hesitating to announce the diagnosis, if made early—the risk of offense to the family, and the popular dread of any mental disorder—that one would do well to send his patient to a near-by hospital for observation before declaring what he fears is the true condition. A case must be so advanced as to be clear to almost any one before a formal certification or hearing by jury, which pertains in some States, can be gone through with.

Treatment.—As to medical treatment, while not by any means a therapeutic nihilist, there are certainly no specifics in any of these conditions; nursing, management, good food, con-

genial, hopeful surroundings, are of more importance than medicine alone. The functional disorders of the higher centers affect consciousness, the sense of relationship, the adjustment to the outer world; and psychical and physiological measures are important.

A classified list of measures as adapted to any particular train of symptoms is of course out of the question. The tried hypnotics and sedatives, the prolonged hot bath, liberal feeding, and tonics and stimulants on occasion, must be the basis. While there is no magic in the care given by asylums and homes for these cases, yet the facilities and understanding of the nature of these cases are better than can be immediately commanded in the home, let alone the question of expense. Nothing can take the place of the personal comprehending care of these cases. It is inhibiting to the excited, reassuring to the depressed, of control and order in the objective world, however chaotic the subjective may seem.

This explains the quieting effect sometimes seen in the mere removal of the patient from home, where there was more or less harmful yielding to, and sharing of, the mental state of the patient, confirming false impressions; but when brought where fears or excitement did not disturb those about him it has acted as a potent sedative.

In recent years earlier commitment does pertain. Twenty years ago the number of cases diagnosed on admission as acute mania almost doubled those diagnosed as acute melancholia; now this is almost reversed. For example, of the 12,000 admitted to the department for insane of the Pennsylvania Hospital at Philadelphia since 1841, 4500, about equally divided between men and women, were rated acute mania—this is some 37 per cent; 3300 acute melancholia, only 27 per cent; but for the year 1902 only 24 in 185 admissions, or 13 per cent, were rated acute mania, and 64, or 34 per cent, acute melancholia.

It is not probable that insanity runs so much more to the depressive states, but this is a result of getting the patient under treatment, or at least making the diagnosis in the premania or early depressed stage which pertains in many cases, and the prevention of the development of mania. Individual segregate care offers great advantages over aggregation in large wards, especially where there are chronic cases, for while the patient may fail to see anything irregular in his own ideas or conduct, he will see it fast enough in another.

Dr. Wagner, superintendent of the Binghamton State Hospital of New York, with a population of about 1400, and an

annual admission of some 250, says: "The need of a building for acute cases has been felt for several years. We are receiving patients suffering from acute attacks of mental derangement who ought to get well, but who, in some instances at least, I believe, fail to recover because it is impossible for us, under existing conditions, to provide them with the care they should have."

The Massachusetts State Board of Lunacy, referring to curable cases, says: "To such, aggregation in large numbers is most detrimental. A small hospital for acute cases for fifty patients should be erected in connection with each hospital, but sufficiently distant therefrom. Early efficient treatment of acute curable insane puts the most effectual check upon increase of insanity, because thus the largest number may be restored to sanity, brain damage minimized, and its remote consequences through heredity ameliorated.

Dr. Busey, superintendent of the Colorado Insane Asylum, in his last report says of treating these acute classes: "Individualized treatment and personal liberty go to make up the fundamental principles."

As it is often necessary for the proper treatment of insanity, let alone the matter of public safety, to restrict personal liberty, there must be laws regulating the methods of imposing such restrictions. This publicity and formality imply that insanity is an offense against the law and not a sickness in the proper sense.

I believe that we and our nurses must learn more thoroughly its prodromes; the incipient stages of insanity, the necessity of the earliest possible diagnosis and effort to cure; and that hospitals must be as liberal in admitting such cases as they would any form of illness.

The last report of the State Board of Lunacy of New York says: "A hospital for the acute insane should be located as general hospitals in the most populous portions of the city. It should have an outdoor department, where mental cases may be seen in the very early stages. Patients should be received for diagnosis as emergency cases without commitment papers, legal forms to be made use of only after a specified time has elapsed, and when it becomes evident detention will be necessary."

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

BEHRING'S NEW IDEAS ON TUBERCULOSIS.

Due consideration must always be given to any expression of opinion by so notable an observer as Professor Behring. His communication recently made to the Society of Internal Medicine at Berlin is sufficiently revolutionary in its statements to be deemed sensational. He upsets preconceived opinions on the essential nature of tuberculosis by boldly alleging his belief that tuberculosis is always and invariably primarily an infection of the intestine, acquired during the early years of infancy. The prophylaxis of tuberculosis therefore resolves itself into providing nourishment for the infant that shall be free from the bacillus of Koch, and procured from cows that have been immunized by definite methods of vaccination. The originality of Behring's views consists in their absolute negation of facts which have been considered universally admitted and adequately demonstrated. So-called antituberculous milk is for the time being abandoned, and is to be replaced by prophylactic milk to which some few drops of formalin have been added, this being the antiseptic which Behring considers to be without equal for the purpose. Behring's opinion on the nature of tuberculosis practically denies all initial infection of the lung. Pulmonary, bronchial, tracheal, or laryngeal tuberculosis has no existence in science. Persons subject to these lesions are those who have received intestinal infection during childhood.

The reasons invoked by Behring in favor of his position are various. There is for example the old argument that if tubercular infection were due to inhalation, there could be no laryngologist who would not be tubercular. He cites the case of the laryngologist Schmidt, who has taken care of thousands of

tuberculous larynges without becoming the prey of tuberculosis. The histories of those who have been said to have acquired tuberculosis through wall-papers and books in the rooms of the tubercular have been investigated, and Behring denies there is any authoritative case proved. The cases cited by Knopf—those in which twenty individuals developed tuberculosis in one office—are found to be dependent on hearsay.

The animal experiments conducted by Behring are also noteworthy as demonstrating that it is possible to produce tuberculosis without recourse to inhalations of tubercular matter. By injecting under the tongue tubercle bacilli attenuated by formalin he produced pulmonary tuberculosis in animals.

The theory of tuberculosis elaborated by Behring is essentially this, that from the aliment of cow's milk containing tubercle bacilli, these bacilli penetrate the intestines and are taken up by the lymphatics, which convey them to the mesenteric ganglions. These are also distributed by the lymphatic system to the nasopharynx, the cervical glands, and elsewhere. Imprisoned in this way the bacilli can remain for years and years, and even for the whole length of life. They can also from these sources enter the blood and produce a hematogenous infection which can manifest itself in various terminal phenomena, notably in the pleura.

Milk being the principal cause of this infection-process, Behring is particularly insistent on the wisdom of replacing boiled and sterilized milk by that which has been treated with formalin—that is, where the cows have not been thoroughly immunized.

EDITORIAL NOTES.

Incomes of American Physicians.

The popular idea that medical men are as a general rule in easy circumstances is refuted by a writer in *Leslie's Monthly*, who says there are about 200,000 doctors in the United States, or about one for every 350 people. It has been approximately estimated that the average yearly income of these men is $750, or that the public in the country pays $150,000,000 annually for medical attendance, omitting entirely the money spent for patent medicines, which brings millions of dollars to manufacturers, or the amounts spent for doctors' prescriptions, or paid to quacks and commercial doctors. The preparation for the practice of

medicine that gives a man a good standing in the profession means an expense of, liberally speaking, $4000 for four years in a reputable medical school, $1000 for general expenses during two years' hospital service, and perhaps another $1000 for setting up in practice. A year or two in Europe is also a help.

By this article the public will learn that medicine is not a path of roses, and many aspirants for the degree of M.D. will probably think twice before embarking on a life's work that is so poorly paid.

Women Inspectors.

We learn from an English contemporary that a woman inspector has been appointed in Liverpool who is charged with instructing young mothers in their duties toward their children. What she has to do is put down as follows: To visit houses where births have occurred, and to instruct the mothers in the preparation of infants' food and the proper method of infant feeding; to keep under constant supervision houses occupied by dirty tenants; to endeavor to raise the standard of cleanliness; to visit certain houses where there are cases of non-notifiable disease, such as whooping-cough, and to advise as to the nursing and care of the patient; to visit houses where there are dirty and neglected children; to visit houses where infantile deaths have occurred; to assist as far as possible in house-to-house inspection.

The idea is an excellent one, and much misery might be avoided if this plan were carried out among the poor of our large cities.

Death from Plague.

Another victim to science has been made by the death of the director of the St. Petersburg Institute for Experimental Medicine and the Production of Antiplague Serum. He was engaged at the laboratory with living plague cultures when he contracted the plague, and died in four days, notwithstanding repeated injections of antiplague serum. All the other persons connected with the laboratory were given preventive injections, but two cases developed in spite of these measures. This makes the third laboratory director whose life has been sacrificed in efforts to perfect an efficient plague serum. The other two were Dr. Miller of Vienna and Dr. Sachs of Berlin.

The Prophylaxis of Typhoid Fever.

The recent disastrous epidemic of typhoid fever at Butler, Pa., will doubtless have a tendency to make State boards of health more careful in the future. Already the Illinois State Board of Health has prepared a set of rules and regulations in regard to the prevention and suppression of this disease. Copies of them have been sent to all the newspapers in the State, and to every county, township, village, and city health officer. They will also be distributed among the laity. Similar efforts ought to be adopted in every State of the Union.

A Decrease in the Number of English Physicians.

The London medical directory for 1904 shows that there are in the British Isles 37,730 registered physicians. This is an increase of 439 over that of 1903. The number of graduates has in the past few years shown a notable decrease in England. Statistics as shown by this directory place the increase in 1894 at 1013; in 1895, 818; in 1896, 730; in 1898, 713; in 1899, 619; in 1900, 534; and in 1903, 503. Such a condition of affairs is likely soon to take place in this country now that the lines are gradually being tightened, making it harder each succeeding year for candidates to obtain licenses from the various State boards of registration.

Teaching Social Hygiene.

How to teach social hygiene is often a matter of perplexity. The French have a certain facility in the use of the romance for this purpose. For instance, the plot of a recent novel "L'Insexuée" concerns itself with the fortunes of a young woman who during the honeymoon acquired an infective salpingitis. For this she had to submit to an operative procedure which deprived her of the privileges of her sex. The author, Paul Bru, puts into the mouth of his hero, a professor of clinical surgery, these words: "It is for us physicians to extend unto all classes of society our ideas and doctrines. It is by combating ignorance we prevent disaster and catastrophe."

ITEMS AND NOTES.

Measles is epidemic in Hope, Ind., and Findlay, Ohio.

In Rosedale, Ind., all the schools in the vicinity have closed on account of smallpox.

The contract for building the new naval hospital at Washington has been awarded.

Two hundred and thirty-six ambulances were shipped from Indianapolis last month for Japan.

Prof. Julius Hochenegg, of Vienna, has been installed to a chair of surgery at Vienna, vacant since Gussenbauer's death.

The Minnesota State University may be closed for the remainder of the scholastic year, because of the continued prevalence of typhoid fever and diphtheria.

Prof. R. Krause and Dr. M. Mosse, of Berlin, announce the foundation of a new Centralblatt f. normale und pathologische Anatomie mit Einschluss der Mikrotechnik.

Dr. William Osler, president of the Association of Medical Librarians, has issued a circular appeal urging support of the *Medical Library and Historical Journal.*

The chemical laboratory of the Ohio State University at Columbus was totally destroyed by fire February 19. The loss is estimated at $100,000. There is no insurance.

The public hospitals in New York City have been filled to overflowing with sufferers from pneumonia and other diseases commonly ascribed to exposure to inclement weather conditions.

The Pennsylvania Society for the Prevention of Tuberculosis has determined to begin an active campaign for the prevention of the spread of tuberculosis as well as other infectious diseases.

Daily papers inform us that the Russian admiral in charge in the far east is suffering from the effects of a severe nervous depression. One of our readers asks, "Is it not possible that his disease is in reality chorea?"—*Exchange.*

Dr. Nicholas Senn, who offered his services to the Red Cross Society of Japan, has received a reply from Baron Hashimoto to the effect that the organization has not the power to accept the proffer of assistance.—*Exchange.*

Building Commissioner Williams, of Chicago, has notified those in charge of eight of the smaller hospitals in that city that they must receive no new patients in their institutions until certain specified building changes are made.—*Exchange.*

The County Detention Hospital at Ann Arbor, Mich., will soon be ready for the reception of contagious diseases, the county having arranged to raise the $30,000 necessary for the building, and the university having promised to meet the running expenses.

The American Laryngological, Rhinological, and Otological Society will hold its tenth annual meeting in Chicago, Ill., May 30, 31, and June 1, 1904, under the presidency of Dr. Norval H. Pierce. Wendell C. Phillips, secretary, 49 West Forty-seventh Street.

The Senatus Academicus of the University of Edinburgh has awarded the Cameron prize in practical therapeutics to Prof. Niels R. Finsen, M.D., of Copenhagen, in recognition of his pioneer work in connection with the application of light rays to the treatment of disease.

The Harvard Medical School experts who are going to the Philippines to study smallpox germs have a method in their apparent mania. They will carry on their operations in some of the distant islands of the archipelago, not because smallpox prevails there, but because monkeys are many and antivivisectionists few.

The Black Hills, S. D., Medical Society has been organized by the practitioners of western South Dakota with the following officers: President, Dr. A. H. Bowman, of Deadwood; vice-president, Dr. C. W. Hargens, of Hot Springs; secretary, Dr. A. G. Allen, of Deadwood; treasurer, Dr. F. S. Howe, of Deadwood.

The Boston Board of Health has warned people, especially the street railway employees, that salt must not be used so freely in getting rid of ice and snow. Much complaint has arisen because pedestrians have been obliged so often to wade in a freezing mixture of snow, water, and salt, resulting in serious risk to health.—*Journal of the American Medical Association.*

JOHNS HOPKINS HOSPITAL, it has been learned, is one of the heaviest losers by the fire. The hospital owns real estate in Baltimore whose value has been placed at not far from $2,000,000. A list of the buildings owned by the hospital and burned was examined to-day, and the estimate was made that the hospital's loss will be very close to $1,000,000.—*New York Medical Journal.*

IT is reported from Vienna, says the *Medical Record,* that Professor Gussenbauer has relieved a cancerous stricture of the esophagus by means of radium. A rubber capsule containing sixty milligrammes of radium was attached to the end of an esophageal tube and passed down to the seat of the stricture. After a certain time, which was not definitely stated in the cabled report, the stricture yielded and the tube passed into the stomach.

THE city council of the French city of Rouen has adopted the plan of offering a prize of $2 to the first person who notifies the authorities of a case of typhoid fever. A sum of $4 will likewise be paid to the family if they agree to follow the directions of the board of health in regard to disinfection, etc. When the city council adopted the above typhoid bounty plan the only two dissenting votes were those of the two physicians who serve as members of the council.

DR. J. C. PERRY, of the U. S. Public Health and Marine Hospital Service, whose elaborate report on the Panama Canal route, its sanitary condition, needs, and possibilities, has been given to President Roosevelt, describes the two extremities of the route as exceedingly unsanitary and unhealthy, but he points out that extensive filling in of swamp land, proper disposal of sewage, protection from mosquitoes, destruction of unsanitary native houses, and the installation of a supply of good water will create a different character and make the places healthy.—*Exchange.*

IN a paper recently read before the Paris Academy of Medicine, Dr. Doyden announced that he had elaborated a curative serum for cancer. This serum was prepared in the usual way from cultures of micrococcus neoformans, which the speaker regarded as the pathogenic microbe of carcinoma. Of one hundred and twenty-six patients treated in two years, fifty-eight did not show favorable results, forty-seven improved in varying degrees, and twenty-one presented no evidence whatever of cancer and were regarded as cured.—*Exchange.*

A BELGIAN savant has just published, according to a contemporary, a treatise on shaking hands, which he states is most dangerous, a mutual pressure of the hand being nothing more than an exchange of undesirable microbes, 80,000 of which inhabit every half-inch of the hand. The most dangerous people to shake hands with, it appears, are doctors, surgeons, nurses, hairdressers, butchers, sausage-makers, tripe merchants, tanners, and leather dressers, while the least dangerous person seems to be a worker in metal, because the metal sets up an oxidation which acts as an antiseptic. The safe course is to salute only with our heads and our hats, or always wear gloves.

THE food test at the Department of Agriculture which has been going on for several months past, to test the effect of salicylic acid on human health, has brought out some queer results. The general fact is established, says *American Medicine,* that salicylic acid seriously injures health. One man, however, has reason to rejoice in the salicylic acid treatment. It has cured his rheumatism. The experiments have been abandoned to save the subjects, but will be resumed when the men have recovered somewhat from the effects of the past two months' diet on prepared foods into which salicylic acid entered as a preservative. Dr. Wylie says that he expected this result. This experiment has turned out just as did that with foods preserved with borax. That made all the men sick.

THE Chicago Pasteur Institute's director, Dr. A. Lagorio, reports that since the institute was opened July 2, 1890, 2026 patients have received the anti-hydrophobic treatment. Of these 1807 had been bitten by dogs, 76 by horses, 57 by cats, 19 by cows, 18 by skunks, 25 by other animals, and 22 were infected by hydrophobic human beings. Of individuals bitten by animals absolutely known to have been rabid, 982 were treated; of patients bitten by animals presumed to have been rabid because of symptoms of disease during life, 776 were treated; while 268 cases were cared for in which rabies was suspected. Only seven deaths were reported, a mortality of 0.34 per cent. Six individuals abandoned treatment, two of whom subsequently died from hydrophobia.—*Medical Record.*

A BOARD of officers will be convened to meet at the Bureau of Public Health and Marine Hospital Service, 3 B Street S. E., Washington, D. C., on Monday, April 4, 1904, at 10 A.M., for the purpose of examining candidates for admission to the grade

of assistant surgeon in the Public Health and Marine Hospital Service. Candidates must be between twenty-two and thirty years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character. The tenure of office is permanent. Officers traveling under orders are allowed actual expenses. For further information or for invitation to appear before the Board of Examiners, address Surgeon-General, Public Health and Marine Hospital Service, Washington, D. C.

THE nuisance of beggars in India is intensified by the number of leprous and diseased cripples who haunt the thoroughfares of most towns. In Bombay it is complained that they stand in rows endeavoring to excite the compassion of passers-by. The sight is not only offensive but revolting, and there is probably danger in allowing so many lepers to move about and to live in the most densely populated quarters of the town. The very worst cases and the most contagious are the most in evidence. In Calcutta this traffic in sores is also a serious and constant evil. There is a growing opinion that the time has come for these pitiable mortals to be prevented from turning their misfortunes to account in earning a livelihood to the nuisance and danger of the public, and that adequate provision will have to be made to keep them out of the way.—*Lancet.*

CHILD labor, says *American Medicine,* is declining in New York State. Not only has there been a large decrease in the total number of children receiving permits to work, but there has been also almost a total elimination of the perjury resorted to by parents under the old law to get children into factories and stores. The establishment of systematic coöperation between the authorities who enforce the law and the authorities who investigate and if necessary relieve the poverty conditions so often alleged as the cause of child labor, is announced in the report of the Child Labor Committee just issued. The new law has been in operation since October 1, 1903. During October, November, and December certificates were issued in New York City to 2922 children, or 67 per cent of all who applied, whereas during the same months of the preceding year certificates were issued to 4353 children, or 80 per cent of all who applied. The stricter requirements which have caused this change are a minimum age, a minimum amount of schooling, and proof that the child has been observing the compulsory school law.

NEW PUBLICATIONS.

BIOGRAPHIC CLINICS.

This is the second volume of Dr. Gould's Biographic Clinics. Those who remember his first volume will recall that it was somewhat extensive in its claims. From the biographies of certain well known individuals, it was asserted that many peculiarities of temper and disposition and much mental perturbation were the outcome of eye-strain. The author tells us the reception his views obtained was not flattering; but not to be discouraged he regards dissenting opinion as simply indicative of a lack of appreciation of the true facts of the situation, so he gives us another series of biographies, all designed to illustrate the relation of eye-strain to the physical and mental maladies of distinguished individuals. This time George Eliot, Lewes, Wagner, Parkman, Mrs. Carlyle, Herbert Spencer, Whittier, Margaret Fuller, and Nietzsche come in for comment. The extent of the author's claim is shown by his prefatory remarks on the pessimism which with its gloom and dejection color half the literature of our time, and his statement that melancholy, morbidity, and despair are the confessed results of migraine. The book will be found a very interesting one, as are all the productions from Dr. Gould's prolific pen.

Biographic Clinics. Volume II. The Origin of the Ill Health of Several Distinguished People. By George M. Gould. Philadelphia: P. Blakiston's Son & Co.

A SELF-CURE OF CONSUMPTION.

A small volume with the above title has recently come from the press of E. B. Treat & Co. of New York. It was written by Dr. Davis with the declared object of showing how very many cases of consumption can be cured without the use of medicine. The author does not adduce anything particularly novel in the way of treatment, but has filled the book from cover to cover with much excellent advice, very practical in character. He deals particularly with the open-air treatment, proper methods of breathing, suitable diet for consumptives, and also with climate, exercise, and sanitarium treatment. As an appendix he presents an excellent article on "The Prevention of Consumption and Other Diseases." The book is up-to-date and commendable in every particular, and gives the busy practitioner material for much good advice to offer his patients.

The Self-cure of Consumption Without Medicine. By Chas. H. Stanley Davis, M.D. Pages 170. New York: E. B. Treat & Co., 1904.

THE BLUES.

The author describes in this volume a variety of nerve depression which he designates splanchnic neurasthenia, and which he thinks is the correlative of that condition subjectively known as the blues. The origin of the form of neurasthenia is attributed to a congestion of the intra-abdominal circulation, and this in turn is a result of the assumption by man of the upright posture. The work is an interesting one, and is not confined to exploiting the individual views of its author, but contains much information of a useful kind bearing upon neurasthenia and allied states.

The Blues. Causes and Cure. By Albert Adams, M.D. Illustrated. New York: E. B. Treat & Co.

PSYCHIC LIFE AND LAWS.

This little book is a commentary upon certain conditions of organism more or less admitted. Some of it seems to stand on an actual basis of fact, and much on a somewhat conjectural basis. There is something about hypnotism, suggestion, spiritual life; and such terms as spiritual life find frequent employment in more or less vague connotations.

The Psychic Life, or Operations and Phenomena of the Spiritual Element in Man. By Charles O. Sahler, M.D. London, New York, and Melbourne: Powler, Wells & Co.

THE WORTH OF WORDS.

This is a little manual which will be of use to writers and speakers and all who desire to attain correctness in the use of the mother tongue. It is not unlike similar books on the same theme, but the text is clearly written, and the author's meaning aptly expressed.

The Worth of Words. By Ralph Husted Bell. New York: Hinds & Noble.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Abscess of the Lungs.

H. Schlesinger recently read a paper on abscess of the lungs before the Wiener Medicinisches Doctorencollegium. He said that during the last ten years some progress had been made in the knowledge of the clinical symptoms and the therapeutics of this disease. The non-tuberculous forms are caused by pneumonia, the entrance of foreign bodies, traumatism, embolism, perforation of neighboring ulcers, and bronchiectasis. Among the symptoms which are of diagnostic value might be mentioned the physical signs of cavity and the presence of very abundant, sometimes very offensively smelling, expectoration containing in some rapidly developing cases elastic connective tissue and fragments of lung substance. If there is a spot on the thorax which was at one time tympanitic and at another time dull on percussion, and if the change of sound coincides with the coughing up of large amounts of sputum, this change and the presence of râles will be of diagnostic value in cases of pyrexia combined with ill-smelling sputum. The concurrence of circumscribed dulness amidst the air-containing tissue, a shadow or extremely bright spot shown by means of the Roentgen rays, and portions of lung substance in the sputum, are important diagnostic indications. Amphoric breathing is not characteristic of a large cavity. The diagnosis might also be made in cases without pulmonary cavities by observing the increasing circumscribed dulness, the purulent sputum, and the increasing leucocytosis. Up to now the symptoms of slowly increasing dulness have not been regarded as significant, but they are of value in the rare cases without expectoration in which no breathing is heard over the area of dulness, and this area of dulness is surrounded by normally resonant lung. Pulmonary abscess might be either solitary or multiple; it is mostly in cases of influenza that multiple abscesses occur. In eighty per cent of the cases of pulmonary suppuration pleural adhesions are present and may be diagnosed by the imperfect respiratory movement of the lower border of the lung, by the decreased mobility of the individual parts of the thorax, by the

condition of retrécissement thoracique, by the drawing in of the skin between the ribs during inspiration, and by the appearance shown with the Roentgen rays. Professor Schlesinger has found inflammatory edema of the skin (a symptom not long recognized) over the affected part of the lung. Operative treatment is indicated when pulmonary abscess has been diagnosed and its position located, because there is the danger of rapid extension of the process, but operation may be postponed for three or five weeks if the abscess is not putrid. If enlargement of the abscess or perforation into the pleural cavity occur, immediate operation is necessary. It has been found that eighty per cent of pulmonary abscesses which had been operated on recovered, but in cases of gangrene only sixty per cent of those which were operated on proved successful. After operations for bronchiectasis the results were so unsatisfactory that Professor Schlesinger does not recommend surgical interference in these cases.—*Lancet.*

Some Methods of Treatment of Carcinoma.

J. McFadden Gaston (*International Journal of Surgery,* January, 1904) says that efforts have been made to starve tumors by ligating vessels. Even excision of the external carotid artery has been practiced for the purpose of devascularization of the malignant area. Yet the tumor itself is allowed to undergo other changes after the main operation is performed. After these measures the patient is left severely alone until recurrence takes place. It is just at this time that increased vigilance and treatment are demanded. A bulwark must be set up around all healthy tissues, and the soldiers within the fortifications must be always on guard against the inroads of the enemy. Many rely upon alteratives and tonics for this purpose, and a strong trophic influence is exercised by electricity, and thus absorption of the foreign tissue is favored. Electrolysis and cataphoresis offer great advantages over the repeated use of the knife or the galvanocautery. They can be combined in such a manner as to be used at regular intervals and with no pain, and so as to keep up with the diseased condition; and even when the granulating process is set up, the effort should be to promote a trophic action and to decrease the diseased cells. Both trophism and atrophy are needed, and this is the known action of the two poles of a galvanic battery. The positive pole can be used wherever devascularization and atrophy are demanded, and the negative pole wherever increased blood

supply is preferred. It is by means of this method that we can obtain an absorption by the lymphatic system of all extraneous material other than that which is already changed into gases, such as hydrogen, oxygen, and chlorine. Many of the other elements are present in the body in small quantities, such as carbon, fluorine, iron, phosphorus, sulphur, calcium, potassium, sodium, and magnesium. It is only in combination that they can enter into cell formation. It is a scientific deduction, therefore, that if moisture is removed the biology of the tumor is radically interfered with. In this manner a very gentle current of electricity may influence a large area of diseased tissue.

Any one may perform the same experiments which have satisfied the writer of this paper. Place a piece of tumor which has been excised between two poles of a battery, having a needle at each end, and at one end bubbles will issue; if a sufficient time is allowed, the tumor is dried and hardened. This is a perfect state of preservation similar to a mummy. The writer has a piece of tumor which was excised from a mammary gland, and although removed three years ago it is still perfectly preserved.

When medication is combined with the action of the positive pole a cataphoric action is established, and cell after cell by endosmosis and exosmosis carries the medicine into the area of the current of electricity. A large area on the abdomen can thus be infiltrated with antiseptic chemicals from a small point in the cervix; or again, a small point can be influenced from a large electrode, which may be a common sponge soaked in salt water or in Donovan's solution or bichloride solution, or some other electrolyte.

Formation of New Joints by Metallic Supports.

E. Pascal (*British Medical Journal,* Feb. 20, 1904) in the first part of an interesting communication reports the case of a lad aged nineteen whose humeral head and part of the shaft of the humerus were removed for a sarcomatous growth, and a new joint made by attaching the humerus to the scapula by means of a stout metallic wire. The result so far is excellent, both as to function and non-return of growth. Another case of the author's similarly treated concerned the iliofemoral articulation. The first patient dated his trouble from a fall on December 3, 1901. As pain and swelling occurred he consulted various surgeons, and in January, 1902, he was narcotized and the arm thoroughly examined, with a view to a possible dislocation; no

displacement was detected however. At the further operation a distinct sarcomatous tumor was found growing from the head of the humerus. The upper and external segment of the humeral head was unaffected, but the tumor affected the remaining portions and spread down below the surgical neck and into the attached muscles. All these diseased parts were freely removed, but it was found impossible to preserve part of the attachment of the deltoid and pectoralis major. After the hemorrhage, which was troublesome, was arrested, the various muscles were carefully attached, a stout thread of silver was passed through the whole of the shaft of the humerus and thickest part of the glenoid cavity and twisted up on the external surface of the humerus.

The postoperative course was excellent, and after twelve days the large wound was completely healed. The limb was fixed for about twenty days, and after that passive moments were commenced. About a month later the limb was found very little shorter, the shoulders lowered and less prominent, but covered with a good firm mass of muscle tissue. There was no pain, and the junction was good. The patient was able to dress himself unaided, and except the movements of abduction and elevation, which were diminished, had an excellent range of movement.

The Diagnosis of Metapneumonic Empyema in Infancy and Early Childhood.

J. L. Morse (*American Medicine,* March 12, 1904) says that metapneumonia empyema usually develops during the last days of the pneumonia, or during the first days after the crisis, but in rare instances may develop in the early days of pneumonia, or later during the convalescence. Persistence of the fever and other symptoms after the time of the expected crisis, or their recurrence after the crisis, should always suggest the possibility of an empyema. There is nothing characteristic about the symptoms of empyema, which are those common to all severe pulmonary affections. Rapid emaciation and progressive pallor are the most constant symptoms in neglected cases, while chills and sweating are unusual. Enlargement of the affected side as a whole is more common than flattening or bulging of the intercostal spaces. Flatness in Traube's space is less constant in left-sided effusions in infants and children than in adults. The most constant and characteristic sign of effusion is a marked sense of

resistance on the affected side. Displacement of the heart almost always occurs, and next to the sense of resistance is the most important sign. These two signs justify the diagnosis of effusion even if all the other physical signs are inconsistent. Dulness or flatness is almost always present, but may be replaced by tympany. The respiratory sound is almost invariably bronchial or bronchovesicular in character, and as a rule diminished in intensity. Loud, bronchial respiration is however not uncommon, even with large effusions, and counts very little, if at all, against the presence of fluid. The vocal resonance is very variable both in character and in intensity, and is of little value in diagnosis. It is very difficult to determine the vocal fremitus satisfactorily. Its absence is, however, an important diagnostic sign. Râles may be transmitted through large amounts of fluid. Their presence does not rule out an effusion.

Treatment of Suppuration of the Labyrinth.

W. Milligan (*Lancet,* Feb. 13, 1904) says in order to secure access to the external labyrinthine wall a free exposure of the middle-ear cavity must be effected. This is best secured by the performance of the typical radical mastoid operation. Milligan lays down the following points as guards to operation:

1. In any case of suppurative middle-ear disease where well marked nerve deafness upon the affected side is accompanied by frequent attacks of vertigo and sickness and by nystagmus, either constant or intermittent, a careful search should be made for the presence of any fistulous tract leading into the labyrinth. If found, such tract should be opened up and explored; if not found, however, an exploratory opening through the horizontal semicircular canal or foot-plate of stapes is justifiable.

2. In all cases of suspected labyrinthine disease of septic origin the vestibule should be promptly opened.

3. In cases of chronic suppurative middle-ear disease, accompanied by the presence of cholesteatoma and erosion of the external labyrinthine wall, free opening of the area of involvement should be effected.

4. In cases of suspected cerebellar abscess, accompanied by symptoms indicative of labyrinthine involvement, the operative pathway should be via the middle and internal ear to the posterior surface of the pars petrosa—in other words, through the median wall of the mastoid antrum. In this way the labyrinth is opened

up, the anterior portion of the corresponding cerebellar lobe is exposed, and any extradural abscess lying upon the posterior surface of the pars petrosa would at the same time be located and drained.

Nitrous Oxide and Oxygen in Prolonged Anesthesia.

P. Le Breton (*New York Medical Journal,* Feb. 13, 1904) says the use of nitrous oxide for prolonged anesthesia is satisfactory, but the wealthy class alone can demand it, because of the cost of materials and the larger fee for the engagement of an experienced anesthetist. The bulky and expensive apparatus and the difficult method of administration are not inviting, and the occasional lack of smoothness in the narcosis discomforts the surgeon. Hence the employment of this method will be reserved for anesthetists in the larger cities, in the case of operations upon the extremities or trunk where the condition of the patient demands an anesthesia free from danger and practically free from after-effects. The deservedly increasing popularity of the gas and ether combination predicts a similar popularity for the use of gas, oxygen, and ether, when the gases are used until the incision is made and after the suturing is begun, and the ether provides complete relaxation and freedom from cyanosis during the operation proper. The contraindications are chronic alcoholism and well marked arteriosclerosis or cardiac lesions.

Decapsulation of the Kidney.

Edward Reynolds (*Boston Medical and Surgical Journal,* Feb. 4, 1904) says we must admit that our present knowledge of the pathologic physiology of renal disease is still defective, but we are justified in believing that nephritis has as a rule an infective origin, and probably that the defective renal drainage, due to swelling of the organ within a rigid capsule, plays a part in maintaining the disease. The cases in which general uremic symptoms are more prominent than the physical signs obtained on the examination of the urine are unpromising cases for operation. Where the urinary signs and constitutional depression outweigh the distinctly uremic general symptoms, we may regard the cases as favorable for operation. Where one kidney is mainly or predominatingly affected a unilateral operation upon that kidney offers an excellent chance of prolonged improvement in health,

if not indeed of ultimate cure. In women in whom ureteral catheterization involves little trauma and less risk, all cases of chronic nephritis should be subjected to ureteral catheterization, and the unilateral ones selected for operation.

The Influence of Trauma in the Production of Movable Kidney.

Movable kidney, according to M. L. Harris (*Journal of the American Medical Association,* Feb. 13, 1904), occurs in women with a particular body form, and practically all women with this body form have movable kidneys of greater or less degree.

Movable kidney is not produced immediately, but requires time for its development.

While it is possible to injure, crush, or suddenly displace by violence a normally fixed kidney, such displacement is always accompanied by laceration of the perirenal tissues, which is manifested by distinct local and general symptoms.

Severe injuries involving the kidney or perirenal tissues are seldom or never followed by movable kidneys. Sterns says he has not been able to find a single case in the literature where such a result occurred.

A movable kidney is never the immediate result of a single trauma.

Amputation at the Hip-joint for Sarcoma.

Sarcoma of the femur, according to Wm. B. Coley (*American Medicine,* Jan. 9, 1904), is a malady so dangerous to life, so prone to early metastasis, that only the most radical operation should be performed, and that at the earliest possible moment.

Hip-joint amputation is to be preferred to resection or to amputation through the shaft.

Recurrence being the almost invariable rule after all methods of operation, a thorough course of mixed toxin treatment after operation as a prophylactic offers the best hope of permanent cure.

Disinfection with Hot Air.

Schumburg (*Zeit. für Hygien. u. Infectionk.,* Bd. xli, H. 2) finds that hot air requires a temperature of 148° C. maintained for three hours to destroy microörganisms, thus limiting its use

as a disinfectant to but few articles. He finds, however, that hot air of a temperature of 100° C. with a 55 to 65 per cent moisture is efficient in destroying non-sporulating bacteria in one hour in mattresses, clothing, etc. This moisture may be obtained by placing a vessel containing water in the compartment a little distance from the source of heat. As such organisms as typhoid, cholera, bubonic plague, influenza, tuberculosis, and pyogenic bacteria do not form spores, he considers this method efficient in destroying them; and for such substances as leather he prefers it to steam sterilization, as it will not cause shrinking or affect colored goods.

MEDICINE.

The Blood in Phthisis.

The blood picture in pulmonary tuberculosis is not, according to J. M. Swan (*Journal of the American Medical Association,* March 12, 1904), constant, and the conditions described by Grawitz are by no means absolute. As can be seen by reference to the detailed results of the different examinations, there are cases in each of the three stages of the disease that are quite out of the limits of cellular and hemoglobin content described by him.

Omitting the exceptional cases from consideration, however, the average case in the first stage of the disease presents a slightly reduced number of erythrocytes, a moderate reduction of the hemoglobin, and about a normal number of leucocytes. The average case in the second stage presents a varying degree of leucocytosis, due to an increase in the number of polymorphonuclear neutrophile cells. The erythrocytes are present in about normal numbers, and the hemoglobin is often normal in percentage. The average cases in the third stage will show a reduction in the number of erythrocytes, a moderate leucocytosis composed of the polymorphonuclear neutrophile cells, and a high hemoglobin percentage.

Hemorrhage is usually followed by a marked reduction in hemoglobin, and a slight reduction in the number of erythrocytes. Leucocytosis is not an invariable feature of posthemorrhagic blood.

Albuminuria of itself appears to cause no constant change in the blood picture.

Tuberculous diarrhea is apparently attended by a reduction of

the number of the erythrocytes and of the percentage of hemoglobin, and by an increase of the leucocytes. The latter increase is due to the polymorphonuclear neutrophile cells.

Pleurisy is usually accompanied by a polymorphonuclear neutrophile leucocytosis.

There is no distinctive blood picture that will serve to differentiate between extensive cavity formation due to tuberculous degeneration and that due to other causes. Further, leucocytosis is not a constant feature of cavity formation.

The leucocytosis occurring in the course of pulmonary tuberculosis is due to an increase of the polymorphonuclear elements, and not to an increase of the lymphocytes or of the transitional cells.

The absence of the eosinophile cells from the blood may be looked upon as an unfavorable prognostic sign. The increase of these cells while the patient is under treatment may be taken as an indication that the progress of the disease has a tendency to become arrested.

The Treatment of Gonorrhea of the Future.

G. S. Peterkin (*American Medicine,* March 5, 1904) looks for improvement over our present methods along the following lines:

1. Biochemic research and observation along evolutionary lines will enable us to control the life of the microörganism and thus its infectious properties, and likewise comprehend the factors that decrease the susceptibility of the human body for the gonococcus and increase its resistance to it.

2. By construction of a syringe with due regard to the anatomy and physiology of the parts, one that can be used by the patient himself, that can be used both for anterior and posterior injections, that can be sterilized, and yet be so regulated that in anterior urethritis it will always inject a quantity of liquid corresponding in size to the individual patient's urethra and the inflammatory stage present, without forcing the sphincter. This, the author believes, Dr. Englebret, of Copenhagen, claims he has accomplished.

3. The discovery and manufacture of a drug of such bactericidal and penetrative properties that it will, if applied locally, penetrate the tissues of the genito-urinary tract, kill the bacteria, yet not injure the infected tissues.

4. Obtaining a drug of such strength and properties that, if administered internally, it will destroy the gonococci and its toxins as quinine does the plasmodium of malaria and mercury the germ of syphilis.

5. Obtaining an immunizing serum or antitoxin.

6. The discovery of a microörganism capable of growth in the urethra, yet non-virulent to the host, but destructive to the gonococcus and neutralizer to its toxins.

If, says the writer, we consider each of these means rationally and without bias, we will discover that not in any of them can we hope to find a panacea, but rather a form of treatment that unites the good qualities of each; and will so control this disease that in the time to come future generations will either not know gonorrhea, or will only know it in a modified form, and robbed of its serious consequences, as we to-day know smallpox, syphilis, etc. He believes that we will yet live to see the idea of the specific consistency of germs uprooted, and as a result the future genito-urinary surgeon will also be a physician, who will devote time to the systemic treatment of gonorrhea with the object of destroying the gonococcus, through increasing the bodily resistance to that organism. The local treatment and the syringe will be only one of the means to the end, and not the main road to a universal panacea.

The Difference in the N-rays Derived from Nervous or Muscular Tissues.

At the meeting of the Paris Academy of Sciences, held on January 4, M. Charpentier (*Lancet,* Feb. 6, 1904) read a communication which tended to show that physiological radiations are for the most part *n*-rays, but that apparently they also contain other radiations. Radiations, for instance, sent out by nervous tissue are partly stopped by aluminum. The radiations which do pass through aluminum will traverse a sheet of that metal even when fairly thick, and they are *n*-rays properly so called. On the other hand, the sheaf of radiations sent out by the heart, the diaphragm, and other muscles is not affected by aluminum. Another point which distinguishes nervous from muscular radiations is that, as M. Charpentier has previously shown, the former are increased by slight compression, whereas the latter are scarcely at all increased by the same means. Finally, the radiations from nerve tissues when compared with those from other tissues affect

much more strongly the screen of phosphorescent sulphide when it is heated to a temperature of from 40° to 45° C. It is therefore reasonable to conclude that nervous radiations differ from Blondlot's rays.

The Etiology of Yellow Fever.

James Caroll (*New York Medical Journal,* Feb. 13, 1904) says that since 1897, when the work on yellow fever began, the following original results have been obtained:

1. Bacillus icteroides, Sanarelli, and the hog cholera bacillus are practically identical.

2. Yellow fever is transmitted by the mosquito *Stegomyia fasciata.*

3. This mosquito may convey the disease as early as on the twelfth day after biting the patient, and it may retain the power to do so as long as it lives.

4. Yellow fever can be transmitted by the hypodermic injection of blood drawn from a patient in the first, second, or fourth days of the disease.

5. Yellow fever is not communicated by fomites.

6. The infectious agent of yellow fever can be passed through a filter that is impermeable to ordinary bacteria.

7. The infectious property of blood drawn from yellow fever patients is destroyed by a temperature of 55° C. maintained for ten minutes.

The Use of Formaldehyde as a Preservative of Urine.

Formaldehyde as an artificial ingredient to the urine will lead, according to F. W. Kenney (*New York Medical Journal,* Feb. 27, 1904), to deceptive results in uranalysis by (*a*) making the urine appear albuminous when it is negative; (*b*) not giving a typical reaction when albumin is present.

The reliability of Introna's test, namely, the use of formaldehyde in albuminous urine as a reagent, is to be questioned, inasmuch as the effect of formaldehyde on negative urine is the same, though to a more marked degree, as that on albumin in solution, the difference in the color and density of the precipitate being immaterial.

As a factor in the production of a possible pseudoalbuminuria the therapeutic use of urotropin is a subject well worthy of extended observation and study.

Causes of Death in Diphtheria.

E. Faber (*British Medical Journal,* Feb. 13, 1904) points out that the cause of death in diphtheria depends upon the intensity of the infection, the disturbance of the circulatory apparatus, and the respiratory lesions, paresis, and general complications. Out of fifty-six cases which he studied with special regard to the changes in circulation, he was able to ascribe five distinct series of alterations. In two groups death occurred through the action of the toxin upon the vasomotor center; in another the lethal symptoms were those of poison by carbon dioxide; in another group there were no important changes in the cardiac muscles. Faber did not observe any distinct cardiac paralysis. He considers that death in this group was due to paralysis of the respiratory center. In most of the cases the blood-pressure was unaltered; in the worst cases it always fell during the first fourteen days, and only returned to normal about the beginning of the fifth week.

Inflammation of the Middle Ear in Diseases of Children.

Theo. J. Elterich (*Pennsylvania Medical Journal,* February, 1904) says earache in children is generally caused by acute inflammation of the middle ear, suppurative or catarrhal. Infants and young children may have suppuration of the middle ear without giving satisfactory evidence of pain or without rupture of the drum membrane.

Purulent otitis media is nearly always present in acute infectious diseases of the gastrointestinal and respiratory tracts in young children, and probably stands in a causative relation to gastroenteritis and bronchopneumonia.

The cause of death in many acute and chronic infectious diseases, in meningitis, and in the exanthemata, is the result of unrecognized and untreated abscess of the middle ear.

The Recognition and Prevention of Iodism.

W. Lesser (*Deut. med. Woch.,* Nov. 12, 1903) suggests the following methods for the prevention of iodism: (1) By giving iodides in slimy substances, such as mucilages, which prevent the rapid absorption of the iodide; (2) by dividing the daily doses into a number of small single doses; (3) by giving enemata of

sodium per rectum, possibly together with opium, in order to slow the absorption; (4) by substituting for iodides albuminous iodine compounds; and (5) by injecting iodipin subcutaneously. This latter method has the disadvantage that too little iodine is absorbed at one time to act sufficiently, but in cases of idiosyncrasy against iodides it may be used with advantage.

Oxyuris Vermicularis.

Heller (*Deut. Arch. f. klin. Med.*, H. 1-2) finds that the ingested eggs mature in the stomach and the intestines and arrive at maturity in the cæcum, from whence the impregnated females wander down the large intestine to the anus. Infection usually results by transmission of the ovæ by dirty hands, and the author often finds eggs under the finger-nails of patients suffering from worms. The therapy consists in the administration of calomel followed by santonin and cathartics; this is followed by large soap enemas, which destroy the females. Lastly, in order to prevent reinfection, the surroundings must be looked after.

Miliary Tuberculosis Following Abortion.

Westenhoffer (*Deutsche med. Wochenschrift*, 1903, No. 13) reports the case of a patient who five months after abortion died from apparent sepsis. The post-mortem showed a general miliary tuberculosis, and the writer attempts to show that the condition resulted from an endophlebitis tuberculosa disseminata endometrii. There was also found an old healed tuberculosis of the left tube. The author assumes that the tubercular focus in the endometrium caused a reflex uterine contraction, thus leading to an abortion, and that after the removal of the placenta the tubercle entered the veins and a miliary tuberculosis resulted.

Regeneration of Cartilage.

Matsnoka (*Virch. Arch.*, Bd. 175) produced a necrosis in the aural cartilage of rabbits by removing the perichondrium, and observed by means of microscopical section the exfoliation of the dead tissue, and especially the process of regeneration. The loss of tissue is gradually restored, not by proliferation of the already existing cartilage cells, but by the perichondrium, which grows into the defect and is gradually changed into cartilage.

THERAPEUTICS.

The Treatment of Tubercular Arthritis.

Professor Lannelongue devised some years ago an original method of treatment for tuberculous affections of the joints which he called "methode sclerogene." The object of the treatment was to transform the tuberculous tissues into fibrous tissue by the injection into them of a few drops of a ten-per-cent solution of chloride of zinc. Professor Lannelongue obtained numerous successful results by his method, and it has now been improved upon by one of his pupils, M. Villemin, who previous to the injection of zinc chloride into the tissues around the joint injects some iodoform into the joint cavity three days before using the chloride. By this means the tuberculous articulation is treated both inwardly and outwardly.

M. Villemin has met with great success, and at the meeting of the Paris Academy of Medicine held on February 2 (*Lancet*, Feb. 13, 1904) he read a paper on his cases. Professor Lannelongue, who was present, agreed with M. Villemin, and in reply to those who objected that the method was one requiring extreme delicacy he replied as follows: "It is true that to inject the chloride of zinc only into the tuberculous tissues and not into the joint cavity, where it would set up acute inflammation, requires a certain dexterity, but this is very easily acquired. The great point is not to hurry the procedure, and not to expect the joint to recover its functions too soon. Three or four months must elapse before the tissues can be considered normal, and five months must be allowed to pass before the patient is allowed to use his joint. If any stage of the treatment is hurried, or if forced movements are employed with a view to avoid the formation of adhesions, an acute inflammation may be set up which will undo all the good already acquired." M. Villemin has treated nine patients by this method with perfect success.

Actinic Rays in Neurasthenia.

A. E. Sterne (*Journal of the American Medical Association*, Feb. 20, 1904) says that actinic rays are chemical in their quality but of small caloric value. They exist mainly in the ultraviolet zone of the spectrum. Actinic rays derived from high-power electric lights are similar to or identical with those of solar origin.

Their use is as rational as that of sunlight itself.

Their value lies in their decomposing but at the same time reconstructive molecular action on the body tissues, mainly the blood elements.

By the method herein spoken of their activity is enhanced by the generation of ozone in free and nascent form.

Their ultimate effect is one of oxidation, and consequently they increase the metabolic changes, thereby augmenting the natural processes of regeneration within the system.

The germicidal action is especially pronounced on account of the fact that few germs can exist in the presence of free or nascent oxygen in either biatomic or triatomic form.

Treatment of Pneumonia.

Delancey Rochester (*Medical News*, Feb. 13, 1903) summarizes the treatment of pneumonia as follows: (1) The sustaining of the metabolic processes of the individual by the administration of easily digested foods in small quantities at stated intervals, the administration of large amounts of pure water for eliminative purposes, and the administration of oxygen gas by inhalation whenever the absorbing surface of the pulmonary mucosa is involved to such extent as to interfere with proper metabolic oxygenation. (2) Elimination: (*a*) by the liver and bowel through the vigorous use of calomel and salts; (*b*) by the skin through sweats induced by external heat; (*c*) through withdrawal of blood when indicated by right heart distention. (3) Stimulation of heart by strychnine, alcohol, or ammonium carbonate, and in suitable cases by the subcutaneous injection of normal salt solution. (4) The local treatment of the lung by leeching, wet-cupping, or dry-cupping, as indicated.

Medical Treatment of Diabetes.

W. H. Thompson (*Medical Record*, Feb. 6, 1904) says that he rarely prescribes codeine or any other derivative of opium in diabetes, believing such practice to be harmful. He has learned from experience the great value of cod-liver oil in diabetes, and that diebetics can take it in large quantities with advantage. Its use is however contraindicated in obese persons, or those leading a sedentary life. Next in importance to cod-liver oil he places iron, and next to that arsenic. In severe cases of diabetes he prescribes fifteen grains each of antipyrin and sodium benzoate, four times a day, and after a time substitutes for these fifteen

grains of aspirin and ten of bismuth salicylate. Mineral waters are often beneficial in diabetes, but they should not be given to persons who are emaciating.

Late Results of X-ray Treatment for Sarcoma.

William B. Coley (*Medical News,* Feb. 6, 1904) says the use of *x*-rays in cancer should be limited to recurrent and inoperable cases with the sole exception of small superficial epitheliomata of the face. Even here he believes the results of excision will prove to be better and more lasting save in the proximity of the eyelids and nostrils. It is most misleading to report as cures, cases in which malignant tumors have merely disappeared under the influence of the *x*-ray, since speedy return is the rule rather than the exception. At the present moment there is no evidence to prove that any permanent cures have been obtained, save possibly in the case of rodent ulcer.

Treatment of Carcinoma of the Esophagus by Means of Radium Rays.

Dr. A. Exner (*Lancet,* Feb. 6, 1904) has treated six cases of carcinoma of the esophagus in the following manner: He fixed an india-rubber capsule containing 60 milligrammes of radium bromide on the end of an esophageal sound, by means of which he introduced rays into the esophagus for twenty minutes at each sitting. The stenosed portion underwent some dilatation, and the patient's general condition improved, because the difficulty of swallowing disappeared. The improvement was caused by breaking down of the carcinomatous tissue. The treatment is not free from danger, because perforation of the esophagus might occur.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Paget's Disease of the Umbilicus.

In the *British Journal of Dermatology* for February, 1904, T. Colcott Fox and J. M. H. Macleod report a case of Paget's disease of the umbilicus, and sum up their remarks on the histology of the case and conclusions in part as follows:

Although the affected epidermis was that of the umbilicus and not the areola of the nipple, still the changes present in it, the peculiar degenerated prickle cells, the occurrence of the dense sheet of plasma cells infiltrating the underlying papillary layer of the corium—in short, the whole histological architecture—were similar in every detail to that which has been repeatedly described in the typical cases of the disease. These initial peculiar cellular changes in the epidermis, allied somewhat to those which occur in psorospermosis follicularis vegetans (Darier's disease), could be no longer mistaken for those of chronic eczema or psoriasis, and it is unnecessary to repeat any labored details with regard to the histological diagnosis from these affections. It would seem that the histological changes in the epidermis in Paget's disease are characteristic and pathognomonic, whether the affection occur in the nipple, the umbilicus, or the genitalia.

In this case there was no evidence of definite malignant change in the epidermis. The degree of proliferation was limited, and the basal layer was intact. It has been asserted that the peculiar change of the epidermis is malignant from the first. This does not seem to be so any more than that ordinary warts, the warty growths in xeroderma pigmentosum, or pigmented nevi (moles), are malignant from the outset. They may be all described as precancerous lesions of the skin which have a potentiality more or less certain of becoming malignant.

It has never been demonstrated, and it seems highly improbable, that the degenerated cells which occur in the epidermis or the epithelium in Paget's disease can take on malignant characters. It appears to the authors, however, more reasonable to assume that the malignant growth originates in epithelial or epidermal cells, which, not having degenerated, have reverted and assumed a capacity for proliferation through the prolonged action of some cause which, acting most powerfully on undifferentiated cells, produces their degeneration, than in a matrix of cells which has been deposited there at some period more or less remote.

The general histological appearance suggested a chronic inflammatory disturbance, involving the papillæ and leading to proliferation, edema, and degeneration of the epidermal cells, and to the formation of a resistant cellular infiltration in the upper layer of the corium.

As to the most important problem of all, the actual cause of this singular precancerous dermatitis and the subsequent carcinoma, their researches did not seem to throw any light, and they felt as much in the dark as when Paget described it in 1874. The

theory of Darier and Wickham that the degenerated cells in the epidermis were coccidia and caused the disease has gone out like a pricked bubble, but it has left a blank, for it is a disease which is readily explicable on the assumption that it is parasitic in origin. Like the causation of cancer it remains an unsolved problem. Perhaps in the ultra-microscopical field an organism may yet be found.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Tuberculosis of the Urinary System in Women.

Guy L. Hunner (*Johns Hopkins Hospital Bulletin,* January, 1904) says that urinary tuberculosis in women is a disease of early adult life. It is usually primary in the kidney, although about half of the patients complain first of bladder symptoms.

It is confined to one side in the vast majority of cases. If involving both sides a very painstaking examination must be made of the separate urines to determine whether the treatment should be surgical or medical.

The disease should be kept in mind in dealing with any symptoms referable to the urinary tract; even such common occurrences as a supposed movable kidney or incontinence of urine should be carefully investigated.

Appendicitis and gall-stone colic must be differentiated. Any obscure or atypical case of supposed malaria or typhoid fever should remind one of this disease.

The disease is compatible with a long life of comparative health, and macroscopical and microscopical examinations of our specimens show that in some cases there is a tendency to spontaneous healing; but in spite of these two facts a careful study of thirty-five cases shows the disease to be preëminently surgical.

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ORIGINAL CONTRIBUTIONS.

PLEURISY WITH EFFUSION, AND ITS TREATMENT.

BY CHARLES F. FLANDERS, M.D., MANCHESTER, N. H.

In this short paper I shall not attempt to discuss causation or pathology, but shall only give the symptoms necessary to describe given cases, confining myself to a few personal observations and conclusions that have been forced upon me during twenty-two years' practice. The majority of my cases, as undoubtedly would prove true with us all, occurred in children. Its frequency and its mode of invasion make it one of the most important diseases of childhood. Pleurisy almost always occurs secondary to various primary diseases and conditions, making its appearance often unexpectedly, and is always grave in its consequences to our patient and to ourselves in a professional sense. How many of us can recall the little broncho- or pleuropneumonia patient making a seeming recovery; then after a few days developing the short, jerky breathing, increased temperature, and a more alarming general condition. A careful physical examination will be pretty sure to show where the real cause of this condition arises. I consider the great number of these cases to be purulent, from thirty to forty per cent I think most authorities give. The proper treatment of such cases means much to our patient. I can best illustrate my views by citing a few cases and the varying results obtained, or, rather, that occurred during my treatment.

Case 1.—Girl, six years. Serous effusion filling the entire right side; came to my notice some weeks after a pneumonia. Diagnosis of tubercular deposit in lung, and unfavorable prognosis given by attending physician. Case fully recovered, with use of lung, in about six weeks under purely tonic treatment.

Case 2.—My own case. Boy, seven years. Bronchopneumonia following measles; made poor progress toward recovery; parents helped out my tonic treatment by allowing child to eat

four bananas, which brought on a severe gastroenteritis, lasting over a week, and nearly finishing my case, taking my attention from the real condition, as well as of a consultant I had see the case with me. After two or three weeks of supporting tonic treatment, patient growing weak and emaciated, another consultation was held, and my consultant wisely and rightly wondered what I was thinking about, and advised an early operation, which was done, and the child made a slow, tedious recovery. To say that I was held in great esteem by that family afterward would be very untrue.

I merely give these cases to illustrate how uncertain it is to trust to symptoms and not to use the proper means of verifying our diagnosis. Now the point I wish to make is that as the welfare of our patient depends on an early diagnosis of the character of the effusion, why should we hesitate to verify our diagnosis early and often, if need be, during the progress of our case? The simple aspirating syringe used with antiseptic precautions can do no harm, and that, and that only, gives us a basis for proper treatment. In the purely serous effusions it is wonderful to me, at least, the amount that will become absorbed and the lung regain perfect function, in effusions lasting for weeks. Knowing the disastrous effects that so often follow the early evacuation, before inflammatory action in the pleura has ceased, and the many cases of chest deformity met with, would it not be best to be sure our cases are not purulent, and give them the benefit of time, assisting nature in all ways to build up the general health by tonics, particularly iron and cod-liver oil, and to promote absorption of the fluid? Of all agents to promote absorption, only one has seemingly proved of value—iodine in some form, preferably syrup hydriodic acid. Blisters undoubtedly are of service, the small blisters at close intervals giving better results than the old-fashioned solid blister, besides not causing depression and discomfort to the patent. The various salines, purges, etc., in my hands seemingly do more harm than good. I remember several years ago a young man with an effusion filling nearly the whole left side, and whose previous health for several years had been bad, whom I had, with the assistance of the late Dr. Luther Pattee, under treatment for an entire summer, and our efforts were rewarded by complete disappearance of all fluid in the chest, and greatly improved physical health and constitution.

In March, 1902, I took Dr. Towne to consult, and prepared to aspirate the chest of a boy of seven years. There was complete effusion of right side; chronic pleurisy of two months; child weak,

emaciated, and seemingly in hopeless condition. Dr. Towne advised watching the case for a week before aspirating, by which time he had commenced a recovery which was slow but complete, and in three months was much better than ever before in his life. Now I think removal of that fluid in either case would have resulted in chest deformity at least, if not proving fatal to the patient.

After we have determined the effusion to be serous in character, the danger of its becoming purulent is very slight, serous cases usually remaining serous, pus cases nearly if not always commencing as such, and being much more common than serous effusions, empyema should be first thought of. Now as this is a medical paper, I shall not discuss the treatment of empyema from a surgical aspect, but only give the treatment, in my opinion, that can be easily followed by the ordinary medical practitioner. The use of the aspirating syringe does not require anesthesia, and when an incision is decided upon, local anesthesia is much safer for the patient, and causes less prostration and nervous disturbance. While it is well to know and bear in mind the established points for incision in such cases, it seems more rational to use your judgment in each case—that is, find the point of greatest dulness, or flatness rather, and try the aspirating needle there. Having found pus present, make the incision, then use ordinary antiseptic measures, keep near the middle of the intercostal space, divide skin, then muscles, enlarge opening with ordinary forceps, introducing drainage tubes, and allow pus to escape into the dressings, which should be a good thickness of sterile gauze. In children the simple evacuation of the pus, and provision for its further escape, are usually all that is necessary; at least the procedure relieves the patient for the time, and puts him in better condition for improvement. If not fully curative, as I believe the effect of the operation generally is, you have done no harm, and incurred no risk of the necessity for the subsequent or more radical operation of removing a portion of the rib, when you will want the assistance of your surgical brother.

Understand, the treatment I have given is for cases occurring in children, let us say, under seven years of age. Empyema in the hardened, thickened chest walls of the adult, as Kipling says, is another story. Where the simple incision would not be thought of, when exsection of a portion of the ribs is necessary for perfect drainage, enough should be removed to allow for a certain amount of collapse of chest wall and compression of pleural cavity. It seems to be generally believed that most purulent cases are of

tubercular origin. While this may be true of adults, I hardly think it so with children, bacteriological examinations showing pneumococci in from fifty to seventy per cent of cases, while staphylococci are found either alone or with tubercular bacilli in about twenty per cent. Thus with fifty to seventy per cent probably pneumonic in origin, and twenty per cent due to the various infectious diseases and of septic origin, this leaves a smaller percentage of true tubercular origin than is generally supposed, and the percentage of recoveries would also go to prove the fact, for were the greater part of our cases of empyema merely the local manifestation of an already existing phthisis, a permanent recovery would of course be rare. In all tubercular cases I believe that, after the operation of removing pus from the chest, we should treat the phthisis or tuberculosis, when a large proportion of the cases will recover. I have a patient under treatment now from whom two quarts of pus was aspirated just twenty-one days after the onset of pleurisy. The patient was previously a remarkably healthy, strong woman. I have had two cases in which aspiration was unsuccessful, rupture and discharge through the bronchi occurring, each case making a quick, permanent recovery. I have seen two cases in which rupture through the diaphragm occurred with discharge through the abdominal wall, both proving fatal.

While fully realizing that I have presented nothing new in this paper, I would like to impress, especially upon the younger members of the profession, the importance of a working knowledge of this subject. I can say that it was in this class of cases I was forced to early recognize my own incompetence, and would conclude by saying:

Bear in mind the comparative frequency of these cases.

How the disease is masked seemingly by other symptoms and conditions.

Never regard any case as other than purulent, unless you have proved it by aspiration.

That cases with serous effusions recover wonderfully under good medical treatment.

Never delay operating on a pus case. How safe and simple the procedure in such cases! The goodly percentage of recoveries and the gratification of knowing that he early recognized the condition, and was instrumental in bringing about or making such recoveries possible, more than reward the practitioner for his pains.

ACUTE SPORADIC DYSENTERY.

BY J. S. CAIN, M.D., NASHVILLE, TENN.

Where there is so much of practical importance to be said upon a familiar, every-day disease like that under consideration, I will not consume the short time allowed in attempting a learned disquisition upon its history, nature, or etiology, except just so much as may seem necessary to elucidate the clinical observations and acquired opinions which have resulted from a rather long experience in its study and treatment.

Neither the name as announced nor its usual synonym, flux, has any pathological significance. The one comes from its Greek etymon, signifying painful bowel action, from its chief symptom, tenesmus; the other simply signifying a flow from the bowels, and by the people usually accompanied with the qualifying adjective bloody or gray flux.

The appellation is strictly clinical in nature and describes not a disease, *per se,* but the symptoms of an inflammation of the colon and rectum; custom alone forces to treat the condition as a disease.

It may be divided for consideration into acute and chronic, primary and secondary, sporadic, epidemic, and endemic. The disease prevails amongst all classes and ages of people, in all climates and latitudes, as well as at all seasons, but mostly in its sporadic form in temperate latitudes, in its epidemic form in tropical regions, and in all forms most frequently in the latter part of summer and in autumn.

The few points to which I will call your attention will be confined principally to the acute and primary form of the sporadic variety; like all diseases of a spoliative nature, it is observed both in the sthenic and asthenic forms, the latter often termed typhoid dysentery. These varieties must be regarded as conditions dependent upon the virulence of the *materies morbi,* or more frequently upon the resisting or non-resisting powers of the individual when the disease is contracted, all traceable to the predisposing influences which have previously existed and not as distinctive varieties.

Both the croupous and catarrhal forms of inflammation occur as the pathological factor in dysentery. The former is most intractable and fatal, producing its peculiar manifestation of desquamation of large areas of pseudomembrane, sometimes whole casts of the bowel; the latter is much the most frequent, and here

exhibits pronouncedly the characteristic phenomena of catarrhal inflammation, in the hypersecretion of mucus and exfoliation of epithelium.

The rectum is always involved in the severer cases, as is frequently the cæcum and lower portion of the ileum.

The milder form, especially of the catarrhal variety, while always presenting a condition to be dreaded, from its frequent tendency to extend and intensify, is usually a disease which yields to mild remedies, and terminates in from a week to ten days. The croupous, by some termed diphtheritic, form is always to be dreaded, as well as is the more profound form of the catarrhal. The structural changes in these various forms will be alluded to later on.

It is a disease presumably due to exposure, climatic and atmospheric vicissitudes; but dietetic irregularities and abuses are among the most common predisposing if not also exciting etiological factors. Army life, as has been observed by all who are familiar with the habits of the soldier in the field and camp, offers conditions peculiarly favorable to its production, hence it has been said to be a disease of army life.

Wet soils, hot and humid atmosphere, decaying vegetation, and the much abused agent known as malaria, have all been invoked as causes producing dysentery; but unfortunately for the stability of these theories it has prevailed almost as frequently on dry and sandy soils, where no dampness exists, and where there was no suspicion of malaria, as in wet and humid regions, and it has prevailed with like virulence in temperate climates, and even in Canada and northern Russia, as in the jungles of Africa. The omnipresent and convenient microörganism is held by many, I may say by most, recent investigators to be the efficient factor in the production of this as well as most other diseases, but when we come to arraign the microbe family before the grand jury of scientific investigation it has been impossible to find a true bill against any particular member or even against the entire relationship. The common colon bacillus always exists in great numbers during the prevalence of the disease, but this may be said as well when the disease does not exist, this being the normal and ever present bacillus found in human feces, and probably an essential element in intestinal physiology. The ameba has been found to exist in certain cases, and more or less importance has been ascribed to it as a causative agent, but the rôle which it plays, if one of consequence, has not been defined with anything more than vague suspicion. Dr. Woodward in his excellent researches into

dysentery says that his observations have satisfied him that "a large part of human feces is made up of these low forms of organic life floating in countless millions along with the partly digested muscular fiber and food débris in the alimentary canal," and that "these organisms do not seem to exist in the stools from dysentery more than from persons in health." I mention these facts and observations to show that the profession is somewhat at sea, even up to the present day, with regard to its etiology, and that we must largely confine ourselves to well observed clinical researches.

I have year after year witnessed the disease, sometimes mild, at other times severe, and frequently almost attaining the epidemic characteristics. I have witnessed it in persons diverse in locality and in habits of life, not eating the same food nor drinking the same water—indeed, having nothing in common which would seem to be disease-producing. From observations like these it would seem that season, the effect of heat upon the vital economies, in perturbing nerve energy, in impairment of skin, liver, and stomach functions, with the contributing effects of unripe fruits and decaying animal and vegetable foodstuffs peculiar to the season, all play a more important part in its production than does any specific form of microörganism.

Anatomical Changes.—In the milder forms of dysentery the first observable structural change in that portion of the intestines involved is upon the summit of the folds projecting inward, characterized by redness, increasing and deepening in color if the case progresses unfavorably, until petechial patches become discernible with more or less surrounding infiltration, depending upon the progress of the case. In the more aggravated cases an exudate of fibrinous matter is observed, bran-like in appearance, scattered over the surface, not unlike in appearance to the primary deposits upon the fauces in diphtheria, and resembling this in another particular: it cannot be removed like the exudate in croupous inflammations, because embedded in the deep structure of the mucous tissue. This condition is usually confined to the large intestines, seldom invading the small ones.

If the disease progresses in virulence these ecchymosed spots ulcerate out, either by simple or by gangrenous processes, leaving more or less deep excavations, sometimes only into the submucous strata, at others invading the muscular coat, and even eroding through this and producing localized peritonitis. These ulcerations, if the subject survives, are filled up with cicatricial tissue, leaving contracted patches of this abnormal structure, more or less a menace to health and normal bowel function forever after.

The slowness of repair in these ulcerated patches is the chief agent in the production of chronic dysentery. Again, where the entire lumen of the bowel is involved in the process of cicatrization stenosis offers another cause for the chronic form.

Another fact worthy of the attention of the clinician is that the ulceration in dysentery is often progressive in nature, and as repair occurs at one point another or others make their appearance, so that prognosis in this disease cannot be determined with much certainty.

It may be well to say that peritoneal adhesions may be taken into account in the estimate of cure, and that embolic abscess must be dreaded as a sequela of all severe attacks of this disease.

The characteristic discharges are produced first by the hypersecretion of mucus from the inflamed membrane and the atalectasis of blood from the overdistended blood-vessels of the rectum; later the exfoliation of epithelial scales, the presence of pus, sanies, and blood, with gangrenous matter, are the products of destructive ulceration, differing in character and degree according to the mildness or severity of the particular case. Death may occur from the asthenia and the absorption of septic matter from the seat of the lesion, or from sudden and copious hemorrhages from eroded blood-vessels, as in typhoid fever.

Symptoms.—No disease is more deceptive than this in its frequent mode of attack. Most often it comes on as a simple diarrhea, without any characteristic symptoms of dysentery; this condition may continue from one to several days before the true phase of the disease is developed. When ushered in by well marked symptoms from the onset it is usually preceded by a prodrome of longer or shorter duration, in which the patient complains of anorexia, lassitude, and general malaise, with a special feeling of discomfort about the lower bowel. Frequently the initial attack is ushered in by a chill or rigor. These symptoms are particularly characteristic of the epidemic form, and are liable to be attended by a higher grade of fever than when ushered in by ordinary symptoms.

The characteristic symptoms are frequent small evacuations accompanied with distressing tenesmus. Tormina when present may be accepted as evidence of either inflammatory involvement in the small intestines or the presence of irritating gas evolving matter in this part of the canal.

As in all inflammations of mucous membrane, the exfoliation of epithelium is observed at once, with the increase of mucus,

which after the first few crapulous discharges constitutes the bulk of the evacuations. If the evacuations are composed largely of blood in the primary attack, it indicates great engorgement in the hemorrhoidal and other rectal blood-vessels, and is of different significance from that hemorrhage which comes later in the disease and is from the erosion and destruction of vessels higher up in the canal.

Portal congestion must be regarded as one of the chief complications in all dysenteries and should not be lost sight of in treatment.

Anorexia, nausea, and inability to retain food and medicine often exist, though by no means a constant or even a general attendant upon the disease.

As the disease progresses, if severe, the drain upon the dynamic forces of the system, the inability to take and especially to assimilate sustenance, with general lowering of nerve integrity, soon result in a condition of asthenia or loss of vital powers, usually designated typhoidal.

The absorption into the blood of gangrenous and septic materials from the pathological field frequently occurs as the disease progresses, and engrafts upon the original pathology another phase characterized by a sharp and well defined septic or sapremic fever.

The points of most consequence in differentiation, looking to treatment, are, first: Is it a case of sporadic or epidemic disease? This is determined chiefly by the perniciousness of the attack and the history of the prevailing outbreak. Next as to the associate pathology: Is it a coloproctitis or an enterocolitis? These points are determined by the location and character of pain and tenderness, character of stools, etc. A thorough digestion of all the conditions and circumstances connected with the case will be essential to a safe and satisfactory diagnosis, and a delay until after recovery will probably be the safest rule to adopt in rendering anything like a positive prognosis.

Treatment.—Portal engorgement, with attendant liver inaction, insufficient and vitiated hepatic and intestinal secretions, being an unvarying attendant as well as one of the chief predisposing factors in the production of this disease, the liver and its functions should claim our first attention in treatment. A few small doses, say one-fourth grain, of calomel, combined with opium and camphor or Dover's powder, will accomplish this. If a restraining agent further than these is required, one or two grains of gallic acid will serve the purpose. The functional activ-

ity of the liver and intestinal glands is probably more effectually aroused by an ipecac emetic than by the calomel treatment, and where patients do not object (many do, however) I would prefer this initial treatment to any other.

After this, with careful hygienic and dietetic observance, most cases recover without further treatment. If, however, the disease does not seem inclined to yield, if painful bowel evacuation continues, and elevation of temperature, dryness of tongue with coating and red edges exist, further treatment will evidently be required. At this point a very good guide is found in the character of pain, nature of stools, and general condition. If tormina is the prominent painful symptom, with a sense of discomfort in the small intestines, gaseous accumulations, irritable stomach, and headache, a purgative to clean out the upper and small intestines should be administered. Here there is nothing so effective as castor oil, given to adults in two-drachm doses, with one drop each of oil of gaultheria and cinnamon, each two hours, until free evacuation is produced; some preparation of opium may be added when pain is severe.

If, on the other hand, tenesmus is the dominating pain, with more or less early hemorrhage and all the symptoms pointing to the chief local pathology being in the lower portion of the large intestines, then a saline purgative will be in order. Two drachms of sulphate of magnesia, compounded with the same oils, each two hours until free watery evacuations ensue, will by the local exosmotic action of the saline upon the colon and rectum relieve the local engorgement and arrest the inflammatory action. Here should terminate the "second lesson" or the second step in the treatment of this disease, provided that the last has been deemed necessary, and should practically terminate anything which admits of formulation; subsequent therapy must be expectant in nature. The colon and rectum are accessible to topical treatment. If they are not too sensitive, great comfort as well as permanent good may be done by lavements of tepid water, in which has been dissolved about four drachms of boracic acid to the pint. By elevating the hips and gently but persistently forcing in the fluid with a fountain syringe, especially where a rectal tube can be tolerated, much of the colon may be reached, cleansed, and favorably medicated by this means. Absolute rest should be enjoined and no aliment allowed which can possibly furnish a fermenting débris to the intestines.

If there is much elevation of temperature, this should be treated by sponging the body with a tepid evaporating lotion like alcohol and water.

The use of mineral acids, dilute muriatic or nitromuriatic, given in ten-drop doses every four hours, is a valuable treatment, after the previously directed steps have been taken. Where adynamia appears or threatens, the addition of five drops of tincture of nux vomica to each such dose will meet a valuable indication. Quinine in toning doses is indicated along this line.

The sulphate and arsenite of copper are employed by many in all stages. My experience with these remedies has not been such as to impress me very favorably. Bismuth is another much-used remedy in which I have but little confidence.

Warm counter-irritant applications to the abdomen give some comfort and probably control peristalsis. The aching pains in the loins so characteristic of the disease are somewhat mitigated by the burning of the surface with chloroform, which probably soothes and anesthetizes the peripheral nerve endings and transmits its lethal effects to the suffering sympathetic centers.

The employment of ipecac in large doses, so valuable and I may say indispensable in the epidemic form of the disease, under my observation has always proved harmful in the sporadic form, which with other points of observation has induced me to look upon epidemic dysentery as depending upon another and specific cause different from that which produces the sporadic variety.

SYSTEMIC INFECTION FROM GONORRHEA.

BY NATHAN C. MORSE, M.D., ELDORA, IOWA.

Systemic infection as a result of a latent blennorrhea is of frequent occurrence. It makes its appearance, in the majority of cases, about the third week of a posterior urethritis, but may appear at any period from two or three days to as many weeks or months following the first or local attack.

The cylindrical epithelium of the urethral mucosa, according to the experiments and observations of Neisser, is the natural abode of the gonococci. Here they remain active and aggressive, and if not obliterated finally invade the prostatic ducts and follicles. The columnar epithelium of the mucosa within the prostate serves as a protection for and perpetuates the lives of the gonococci, and the mild alkaline secretion of the prostate, according to the same writer, ministers to the maintenance of their lives.

Authorities differ upon the question as to whether or not latent gonococci themselves penetrate the cellular tissue and the tunics of the blood-vessels, but more recent experiments have

proven beyond reasonable criticism that the gonococci may for a long time remain dormant within the prostate, secreting toxins of more or less virulence that may be absorbed by metastasis and carried by means of leucocytes to various parts of the system. The fact that the gonococci may be the sole instigator of the infection is also conceded by nearly all recent writers on this subject. From the new edition of the International Text-book of Surgery, page 150, I find the following: "The gonococci are now proved to be capable of producing not only local but metastatic pyogenic effects. Werthein has shown in a case of gonorrhea that the capillaries and small blood-vessels of the submucous tissue or lining of the bladder were filled with gonococci, some partly decomposed and others well preserved. Welch has shown that endocarditis in association with other pyemic morbid changes may be due to the action of gonococci." Thayer and Blumer, of the Johns Hopkins Hospital (American Text-book of Pathology), demonstrated by a simple blood culture that gonococci were present in a fatal case of endocarditis. Herring has found them in the spinal meninges, and Councilman found them intact in the cardiac muscles (Warren).

Briefly, then, the system may become infected in three ways:

1. Through the glands of Littre, in the posterior portion of the urethra.

2. Direct infection through the prostatic ducts and follicles, by the absorption of the gonococci or toxins secreted by them; or

3. The gonococci may penetrate the subepithelial and deeper tissues of both urethra and prostate, and by means of leucocytes, for which they seem to have a special affinity, they or their toxins are carried through the blood to the various tissues or parts of the body.

For my own convenience, and with a desire to be as brief as possible, I have divided systemic infection into but two classes:

1. General systemic infection, where the entire system seems involved without reference to any special part or organ—a general invasion, if you please—or true gonorrheal pyemia, or septicemia.

2. Localized infection, or where the gonococci or their toxins have been carried to certain parts or organs, causing lesions somewhat local in character, the nomenclature for which conditions is simple and self-explanatory, viz.: Gonorrheal rheumatism, gonorrheal peritonitis, gonorrheal neuritis, or myelitis, gonorrheal endocarditis, gonorrheal pleuritis, etc., all of which simply designate the local points or parts involved, and all being more or less secondary to the first or general infection.

In this connection it should be remembered that infection of the regional lymph glands (inguinal), epididymitis, prostatitis, cystitis, pyelitis, or periurethral abscess, etc., are not the result of systemic infection, but rather extension of the inflammation by continuity, whereas conjunctival, oral, or rectal gonorrhea is the result of direct implantation of the gonococci upon the mucous surface and is therefore not within the scope of this paper.

Symptoms of Systemic Infection.—I have searched very diligently but find little literature upon this subject. It is not even mentioned by our most recent surgical writers, and yet typical cases are not by any means uncommon.

The symptoms ordinarily begin abruptly with or without a rigor, and closely resemble those of septicemia, except that they are more violent. The temperature rises rapidly to 103° or 104°, and remains high, with morning remissions. The patient feels and looks ill; his condition rapidly grows worse, temperature becomes higher and higher, and he passes into a pronounced typhoid condition, death occurring about the tenth to the fourteenth day. Vomiting is rare, constipation the rule, and lastly, the urethral discharge diminishes or is completely arrested.

If, however, as frequently happens, the patient's powers of resistance prove sufficient to repel the more serious attack and the temperature does not exceed 105° by the fifth or sixth day, the symptoms will usually become more localized in character and ultimately the lesion will be confined or limited to some one part or organ. If the patient be a female, a gonorrheal peritonitis is the most usual result; or if a male, gonorrheal rheumatism or arthritis is the common sequel; and if the pulse assumes an abnormally high rate, the temperature suddenly rises with general symptoms indicative of most serious trouble, you may expect an endocarditis, the most common of all fatal complications.

The following cases are quoted as typical clinical pictures of the most pronounced type of infection:

Case 1.—W. G——, aged twenty-four, male, of rather delicate build, contracted gonorrhea about five weeks prior to the time I first saw him. He stated that a few nights before he was out in a storm, got thoroughly drenched and very cold, and had a hard chill. At this time there was a slight discharge from the urethra. He seemed quite ill, said his bones ached and pained him so he could hardly walk. Temperature 103°, pulse 110. Recognizing the possibility of an infection, he was taken home immediately, placed in a hot bath, and the posterior urethra was carefully and thoroughly irrigated with a solution of permanganate of potash.

The next day he seemed slightly improved; temperature dropped to 101°, but pulse continued to remain high. In the evening he grew worse; temperature reached 105°, and he became delirious. Despite everything we could do the patient's resisting powers diminished instead of increasing, he grew daily worse, and the temperature became higher and higher until at the time of his death it reached 108° F., the tenth day after being confined to bed.

Case 2.—Occurring in the practice of Dr. E. W. Clark, of Grinnell. M. A——, aged nineteen, contracted a gonorrhea eight weeks prior to his having called upon Dr. Clark. Patient at this time complained of a chilly feeling and extreme weakness. Temperature 100°, pulse 120. The following day his temperature rose to 102°. He had a severe headache and complained of pain in his joints, especially the right hip. Large doses of salol, and later quinine and phenacetine, iodide of potassium, and other remedies were given without benefit. Patient gradually grew worse, and died on the eighth day, highest recorded temperature being 106°.

In the milder form, or where there has been a successful resistance of invasion, the following case will illustrate the most common type:

Case 4.—Mrs. S——, aged thirty-six, the husband informed me, had been feeling badly for several weeks; she had had a vaginal discharge, which he admitted was gonorrheal, but thought she was about cured. A week before my visit she had a chill following exposure, and has had more or less fever every day since. Has been confined to her bed for five or six days and growing worse daily. The patient, a strong and otherwise vigorous woman, seemed quite ill, her face had a peculiar pallor, she lay constantly on her right side. At the time of my visit her temperature was 104°, pulse 120, skin moist and sticky, tongue heavily coated. She complained of severe pain in all her joints, especially the back. The pain increased on the slightest movement. Urine very dark color and scanty. Is comfortable only under morphine. I administered a laxative, and followed this with salol, quinine, and phenacetine. She improved somewhat, a few days later the symptoms became more localized, and ultimately we had a pronounced case of gonorrheal peritonitis.

My time being greatly limited, with your permission I will hasten over this subject and refer briefly to the two most common results which follow systemic infection, namely gonorrheal peritonitis and gonorrheal rheumatism. Both are usually the result of a mixed infection or invasion and clinically are easily recognized.

A history of rheumatism or peritonitis following a gonorrhea, with the discovery of gonococci in the urethral or glandular secretions, makes the diagnosis probable, and doubly assured are we when ordinary remedies fail to give relief.

Treatment.—Granted that we have a case of acute gonorrheal pyemia, gonorrheal peritonitis, or gonorrheal rheumatism, what can we do for them by way of palliation or successful treatment? Our text-books offer us little of value. Large doses of quinine or iodide of potash are the only remedies suggested. The entire treatment may be summarized in the endeavor to support the strength of the patient, with the treatment of special symptoms as they arise.

During the spring of 1896 I was treating a man affected with an inoperable osteosarcoma of the left shoulder. This man had been afflicted for many years with rheumatism or gonarthritis of right knee-joint, and at this time, although the tumor was large and painful, he complained more of the rheumatism than the sarcoma. I was injecting into the tumor daily a mixed culture of erysipelas and prodigiosus toxins (Coley), prepared by Parke, Davis & Co., the dose being at first three minims, but increased two minims daily until a slight reaction became noticeable. About the eighth day of treatment his rheumatic pains left him entirely, and from this time until a year later, when he succumbed to the effects of the sarcoma, he was free from all rheumatic trouble. The relief being so marked led me to question him closely, and I ascertained he was an old gonorrheal subject. A few months later a young man was brought to the hospital suffering with gonorrheal rheumatism of the left knee. I gave him five-minim doses of prodigiosus sterilized by the addition of six minims of a 1-40 per cent formalin solution. In less than ten days his recovery was complete.

In March following, Dr. A. I. Bouffleur, of Chicago, was invited to see a case of gonorrheal peritonitis (Case 4, as above referred to). The condition of the patient was such that operative measures, drainage, etc., were deemed inadvisable—in fact there seemed no hope of recovery. As a last resort I used eight minims of the serum with ten of the formalin solution, giving in all five injections, eight hours apart. The patient received marked relief, and ultimately made a good recovery without disturbing after-effects.

My practice being necessarily limited, I have had occasion to use the serum but four times since 1899; three of these were for gonorrheal rheumatism and one for gonorrheal peritonitis.

The results in these cases were very satisfactory, so much so as to warrant me in bringing the matter before you and recommending its employment in the heretofore intractable cases.

I endeavored to make a few experiments along this line, but found it impossible to inoculate the dogs under my charge with gonorrhea, for the reason, which I learned later, that the gonococci necessitate the choice of the human body as a habitat, never having been found in other animals.

I am now in correspondence with prominent bacteriologists, and trust that those more capable may from this crude effort finally succeed in perfecting a useful remedy.

Among the members of the medical profession in foreign countries who have recently died are Dr. J. A. Teyskens, of Brussels, for many years treasurer of the Belgian Medical Federation; Dr. A. Schmidt-Monnard, of Halle, well known as a specialist in diseases of children and as a writer on matters concerning the hygiene of infancy; Dr. Isidor Rosenthal, professor of physiology in the University of Erlangen, author of well known text-books on medical electricity, the physiology of the muscles and nerves, the regulation of heat in warm-blooded animals, etc., and of a German translation of Huxley's Elementary Physiology, aged 68; and Dr. A. Plumeau, assistant professor of anatomy and physiology in the Preparatory School of Bordeaux, and deputy mayor of that city, in which capacity he had taken a prominent part in the enactment of measures for the protection of infant life and the promotion of vaccination.

At the ordinary quarterly comitia of the London Royal College of Physicians held on January 30, the president, Sir William Church, announced that Dr. Horace Dobell, of Dorset, had presented a sum of 500 pounds in cumulative consols to the college for the promotion of original research into the ultimate origin, evolution, and life history of bacilli and other pathogenic microörganisms. The conditions are that the president and censors of the college shall select a lecturer once in every two years who shall give a record of original researches on the above subject, made by himself and others, and that he shall receive a fee of 50 pounds for so doing. These lectures are to be continued biennially as long as a sufficient amount of the 500 pounds and its accumulated interest remains. The first lecture will be delivered during the present year.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

LEUCOTHERAPY.

There has been a tendency, especially at the hands of irregular medicine, to apply the facts of leucocytosis to the treatment of disease in a haphazard way. Goats' serum has been indiscriminately injected into those suffering with all kinds of maladies, without any particular regard to therapeutical principles, and serums of various kinds have been more or less used in experimental manner. This is more or less an outcome of the manifest success which has been attendant upon the application of serum therapy in general.

The matter of inducing artificial leucocytosis is one which would appear a rational proceeding. The leucocytes have an important part to play in the warfare which is perpetually being waged against the infinitely small bodies which invade the human organism. They absorb the microbe and possibly secrete an artificial ferment. The induction of leucocytosis is therefore a proceeding which many experimenters have endeavored to legitimate under the euphemistic name of leucotherapy.

It is easy enough apparently to produce leucocytosis artificially and harmlessly through the intravenous injection of certain substances which are free from toxicity—such substances as nuclein, spermin, albuminose, and the extracts of thymus or testicle, which produce polynucleosis; pilocarpine and iodine, which favor the production of a mononucleosis, preceded in its early stages by polynucleosis. Leucocytosis has been induced by experimenters through these agencies for the treatment of three different conditions, namely, before, during, and after the injection in an animal of virulent germs. The results have so far only gone to show that a leucocytosis to be successful is one which is produced

simultaneously with an injection of microbes, or other causative substances. The leucocytosis so obtained is specific in character, and if leucocytosis is to be successful it must be specifically induced, and it then becomes curative as a serum may be curative.

The indiscriminate use of agencies for the production of artificial leucocytosis is, however, to be condemned, not so much for what it fails to do as for the obvious harm it may do. By endeavoring to obtain a preventive leucocytosis after infection has been declared we may destroy the phagocytes which had accumulated in view of this infection, making them give place to cellules without capacity for contesting this specific infection. From the laboratory again comes the warning that when nature is doing her work well she should be let alone.

EDITORIAL NOTES.

The Regulation of Patent Medicines in Germany.

The sale of secret remedies has come under the consideration of the Federal Council of Germany, which has agreed upon certain regulations regarding their sale. These they will endeavor to have passed by the different German states. The regulations prescribe that the bottles and wrappers in which the listed remedies are sold must contain the name of the remedy and that of the manufacturer. Testimonials and advertisements are prohibited from appearing upon the wrappers. Any nostrum contained in the lists about which the druggist cannot ascertain whether its composition is such as to permit the sale without a physician's prescription can only be sold upon a written prescription dated and signed by a physician, dentist, or veterinary surgeon; in the latter case, however, only if the remedy is intended for animals. Should the Council be successful in effecting the enactment of such laws it will probably be the death-blow to many nostrums which contain deleterious drugs or a large percentage of alcohol.

Beer and Cancer.

A German investigator, Dr. Alfred Wolff, who has been making a careful survey of the cancer areas of Europe, has found that the districts wherein cancer mortality is the highest are those where beer is consumed in the greatest quantities. Bavaria, the

greatest beer-drinking country in the world, heads the list in Germany. Dr. Wolff has observed that the same holds good in regard to France, where cancer mortality is highest where beer is drunk to a great extent. Such facts will doubtless be made use of by ardent temperance advocates. It hardly seems probable that the drinking of beer has any bearing on the etiology of cancer other than lowering the body resistance.

Special Cars for the Tuberculous.

Quite recently a western railroad has had built a number of hospital cars for the sole use of consumptives traveling to Colorado, New Mexico, and the Pacific coast. These cars will be run at intervals on through trains, and none but consumptives will be allowed in them. This innovation will be a welcome one to other travelers, for it is anything but pleasant, to say nothing of the danger, to be in close contact for a number of days with tuberculous individuals in the narrow confines of a Pullman coach.

Clean Transfers.

The fear of disseminating disease germs has caused the New York Board of Health to issue an order forbidding conductors on electric cars to moisten their fingers with saliva when separating transfers that they are about to issue to passengers. Other health boards might with advantage follow the good example set by the New York one. This practice is not only a dirty but a dangerous one as well.

Professor Ehrlich.

The American profession has an opportunity of showing appreciation of the lifelong labors of Professor Ehrlich, who has been visiting this country. The University of Chicago has very fittingly commemorated him with an honorary degree. The "father of hematology" was recently entertained by the profession of Detroit and Ann Arbor.

ITEMS AND NOTES.

THE National Congress of Mothers will be held this year in Chicago, May 11 to 14.

THE number of cases of typhoid fever in Columbus, Ohio, this winter has reached 1500.

A BILL is now before Congress providing for an increase in the medical corps of the army.

THE Sixth International Congress of Zoölogy will be held at Berne, Switzerland, August 14, 1904.

THE American Society of Tropical Medicine organized in Philadelphia has applied for a charter.

DR. GORMAN BACON has succeeded Prof. A. H. Buck as professor of otology at Columbia University.

THE Spanish government has appropriated nearly half a million dollars for sanitary reforms at Madrid.

LORD STRATHCONA has given $20,000 to Manitoba University for the extension of the science department.

THE third congress of the German Society of Orthopedic Surgery was held at Berlin during Easter week.

THE French National Congress of Gynecology, Obstetrics, and Pediatrics will take place at Rouen in April.

THE Massachusetts General Hospital benefits to the extent of $10,000 by the will of Mr. George B. Upton, of Milton, Mass.

THE Hospital des Quinze-Vingts in Paris, which is to disappear, is, next to the Hotel Dieu, the oldest hospital in that city.

OFFICIAL figures show that in German cities of 15,000 or more inhabitants tuberculosis has been steadily decreasing in fatality.

THE Mexican government has decided to spend $7,000,000 during the present year to prevent a recurrence of yellow fever within its borders.

A LAW providing compulsory compensation for factory employees and miners in the case of all accidents has recently become effective in Russia.

IT is rumored that Professor Koch intends to resign his appointment as chief of the Royal Institution for Infectious Disease and to settle in South Africa.

THE chair of psychiatry at the University of Berlin, left vacant by the death of F. Jolly, has been given to Ziehen of Halle, who entered on his duties April 1.

A CLINICAL hospital for cancer cases has recently been established in connection with the University of Moscow. The buildings are said to have cost 400,000 roubles.

THE twenty-fifth annual meeting of the German Balneological Congress was held at Aix-la-Chapelle from March 3 to 7 under the presidency of Prof. Oscar Liebreich, of Berlin.

DR. ANITA NEWCOMB MCGEE, president of the National Association of the Spanish-American Nurses, will have charge of the first detachment of nurses to leave Philadelphia for the seat of war in the East.

THE sixth International Congress of Physiology will be held at Brussels from August 30 to September 3, 1904. All communications on the subject should be addressed to Dr. Slosse, Institut Solvay, Parc Leopold, Brussels.

DR. REYNOLDS, of the Chicago health board, having ventured to defend the use of the cigarette as tending to diminish the habit of spitting in public, has become the special target for attack on the part of anticigarette crusaders.

PROFESSOR KRAEPELIN, chief of the Psychiatric Clinic of the University of Munich, has obtained a long leave of absence with the object of visiting the Dutch Indies in order to study the prevalence of mental diseases among the natives.

THE Texas State legislature has made a grant of $5000 toward the establishment and maintenance of a Pasteur department for the treatment of hydrophobia in the State, in connection with the State Lunatic Asylum at Austin and under its management.

The number of students of medicine enrolled in the medical colleges of the United States in 1903 was 27,615. Of these the regular schools had 24,930; the homeopathic, 1498; the "eclectic," 848; the "physio-medical" and other schools, 339.

The Committee on Medical Legislation of the American Medical Association, through its chairman, Dr. Chas. A. L. Reed, has addressed a letter to the president urging that a member of the medical profession be appointed as a member of the Panama Canal Commission.

An effort is being made to drive out the thousand odd unlicensed practitioners who are doing business in Tennessee. They were compelled to submit to the regular State examination held on April 6, and only those who were successful will be permitted to continue practice.

A scientific association of French military surgeons has recently been formed with the ministers of war, marine, and the colonies. The objects of the society are to study in common medicine, surgery, and hygiene in connection with the sanitary conditions of the army and the welfare of the soldier.

In country practice, Chapin says (*Boston Medical and Surgical Journal*) that the directions given for preparing a room for operation are generally useless. The dust created by taking up a carpet is often a greater danger than the floor covering. It is better to tack down sheets wrung out of chloride solution.

A bill has been introduced in the United States Senate providing that all physicians who have practiced medicine in any State of the Union for ten years or more shall be allowed to practice in the District of Columbia without further examination on payment of a fee and the exhibition of a certificate of good character.

Health Commissioner Greene of Buffalo has sent out circulars of inquiry among the physicians asking for information concerning the effects of high winds on the lake on intestinal diseases. It is his theory that because of the winds the water in the Niagara River, the source of Buffalo's water-supply, becomes filled with sand, which produces irritant effects on the mucosa of the stomach and intestines.—*Journal of the American Medical Association.*

THE Siberian district of Tomsk is suffering from an epidemic of ergot poisoning. The rainy weather of the last harvest season favored the growth of ergot in the grain, and in tests of 92 samples of flour only 19 were found free from appreciable amounts of ergot. Already 123 cases and 14 deaths have been reported.

THE Italian government offers a prize of $200 for the best article on the subject of "Fatigue in military life; the resistance of the organism and its factors; overexertion and its consequences; the weight carried by the Italian soldier, and measures to render it lighter and distribute it better without abandoning any essentials."

THE number of matriculated foreign students at the German universities is larger this year than ever before, amounting to 3093, of whom 722 are in the medical schools. The proportion by nationalities of the medical students is not given in the report, but 319 Americans are included in the total number, and 133 from Asia, mostly Japanese.

A ROENTGEN-RAY congress is to be held in Berlin at Easter, 1905, to celebrate the tenth anniversary of the discovery of the *x*-rays. There will be an exhibition of *x*-ray apparatus in connection with it and with the German Surgical Congress. His excellency Prof. Ernst von Bergmann is honorary president of the Roentgen-ray Congress, and has expressed his intention of being present at its sittings.

THE *Journal Officiel* has recently published a report on the population of France during the year 1902. The births were 845,378 and the deaths 761,434, an excess of 83,944 births over deaths against 72,398 in 1901. This result is due to a notable diminution of mortality, as there were 11,896 less births and 23,442 less deaths than were recorded in 1901. There were 291,431 marriages and 6895 divorces last year.

A LITTLE monthly magazine entitled *Gesundheit in Wort und Bild,* has recently made its appearance in Berlin. The object of its editors, Drs. Weisbein and Lipliawsky, is to supply the laity with popularly written articles on scientific medicine. It is doubtful whether such publications serve any good purpose owing to the fact that a little knowledge, especially medical knowledge, is a very dangerous thing.

THE Committee on Leprosy of the second annual conference of State and Territorial Health Officers with the United States Public Health and Marine Hospital Service has been announced as follows: Dr. Chas. B. Cooper, president of the Territorial Board of Health, Honolulu, chairman; Dr. J. F. Smith, secretary of the Superior Board of Health, San Juan, Porto Rico; and Dr. J. C. Nolte, secretary of the Louisiana State Board of Health.

PROFESSOR CHANTEMESSE, professor of experimental and comparative pathology in the Faculty of Medicine, has been appointed by M. Combes, the Prime Minister of France, to the post of General Inspector of the Sanitary Service in France, vacant by the death of Professor Proust, which occurred during the sittings of the International Sanitary Conference in Paris last autumn. The chair of hygiene, also rendered vacant by the death of Professor Proust, has been given to Professor Chantemesse.

THE statistics of the New York State Commission in Lunacy show that there has been an increase in the number of insane in the State during the past year amounting to about forty per cent above the normal. The observations of the commissioners indicate that there is a relation between the increase of insanity and the development of industries which is sufficiently pronounced to render doubtful the popular belief that the isolation and the monotony of farm life are conducive to insanity, especially among women.

THE Council of the International Antituberculosis League will meet in Copenhagen on May 27 and 28 under the presidency of Professor Brouardel. The council consists of 200 members in all, English, French, German, and Scandinavian, and many of them are expected to be present. The existing Danish antituberculosis sanatoria will be visited, and amongst other features on the programme is a lecture by Dr. Hillier, of London, on the danger arising from the practice of expectoration in streets and other public places.

DR. CHARLES W. DULLES, a graduate of the University of Pennsylvania, claims to have established the fact that his alma mater is the oldest university in America. The university is not the oldest college, though it was established in 1740, but it was the first to take steps toward the enlargement of the curriculum by the addition of a separate department for graduate study, the school of medicine having been founded in 1765. This was the

first actual realization of the university idea in the Colonies, but the idea of a university was in the minds of the founders as early as 1755, when the College of Philadelphia was given the power to grant "the usual university degree."

THE number of suicides from carbolic acid, and the ease with which this poison can be obtained without the prescription of a physician, have led to the drafting of an ordinance by the Chicago Retail Druggists' Association which contains the following provisions: "Every druggist or other person who shall sell or give away any carbolic acid or any solution thereof containing more than five per cent of carbolic acid without the written prescription of a physician, except as hereinafter provided, shall be fined not more than $25.00 for each neglect. It shall be lawful to sell without the prescription of a physician a mixture containing equal proportions of carbolic acid, glycerin, and alcohol." —*Journal of the American Medical Association.*

PROFESSOR PATERNO, an Italian, has suggested a process for the purification of drinking-water which constitutes a great step forward in the study of this important problem, says the *Tribuna*, Rome. From numerous and extensive experiments made by this author it appears that by adding to impure water, even that containing pathogenic microbes, an extremely small quantity of silver chloride, there is accomplished the complete disinfection of the water. For this purpose 2 mg., or at most 2½ mg., of the chloride is sufficient to absolutely sterilize a liter of water and to eliminate every danger of infection. The sterilization is completed in a few minutes—ten at the most—and no apparatus is necessary beyond a small vial with a solution of silver chloride.

THE Mexican government has determined, says the *Medical Record,* to make an earnest attempt to rid its Gulf Coast of the yellow fever scourge. The Supreme Board of Health has at its disposal $7,000,000 for the work of rehabilitating Vera Cruz, and the greater part of this will be devoted to sewerage and drainage work. The town is divided into four districts with a medical officer in charge of each. Each one of these medical officers has under him a large corps of sanitary inspectors. A thorough tour of inspection is made of all suspected or infected districts each day and each evening, and a report is made of the number of cases in each district. Oil is being used freely. Marshes surround Vera Cruz, and every possible precaution is taken to diminish the number of mosquitoes coming from them.

In a recent number of the *Revue de l'Ecole d'Anthropologie de Paris,* M. Manouvrier has dealt with certain markings which he and others have observed on Neolithic skulls. The markings usually take the form of straight or T-shaped dotted lines apparently due to localized periosteal inflammation. It has been supposed that they may be connected with unknown ceremonial rites, but the probabilities are in favor of their having rather a therapeutical interest. M. Manouvrier refers to statements which he has found in ancient surgical writings where it is laid down that "to regulate the humidity of the skull," upon which many maladies were thought to be dependent, the cautery should be lightly applied at numerous points in the occipital or the frontal region. He suggests that this use of the cautery had its origin in prehistoric surgery, and that the skulls which he describes afford evidence of the fact. The skulls found marked are all apparently those of females, which leads us to infer that primitive man adopted rather heroic methods of treating the attacks of headache or of the vapor from which the feminine members of his family suffered.

A foreign exchange says: "Women live longer than men. Taking female lives at any age you choose, it is seen from complete and authoritative tables that a woman may always look forward to a longer life than a man of her own age. Accidents will occur to upset the truth in individual cases, but as a whole the fact remains. Although in the British Isles more boys than girls are born, baby boys die in so great a proportion that girls are presently in a majority. On the day of his birth a boy has a natural right to expect a life of 41 years, 4 months, and 1 week, whereas a girl, according to experience, is likely to live for 44 years, 7 months, and 2 weeks. Those of either age who reach the age of five have a still greater prospect of living long and usefully than they had before they were one year old. Up to that point of time they may be said to be growing younger, in the statistical sense, instead of older; because each year brings them the promise of others in excess of years past. But at the age of six their expectation begins to diminish year by year. At 21 the boy is doomed by average to die 38 years and 8 months later, and a girl at a few days short of age 62. The softer sex retains its advantage all the way, and even centenarian women may look forward to living a day or two longer than if they had been centenarian men. Moreover, the women aged 100 will be more than twice, and nearly thrice, the number of equally aged men."

NEW PUBLICATIONS.

INFANT FEEDING.

This is a third and revised edition of Louis Fischer's excellent manual on infant feeding. The work has been practically rewritten. It deals with the many-sided problem of infant feeding from various standpoints. The home modification of milk comes in for extended comment, and a new chapter on milk idiosyncrasies in children is a suggestive one. The work of the Walker-Gordon laboratory receives considerable attention, the author in some degree believing in modified milk feeding. The book is illustrated with cuts showing methods of treating milk for sterilization, and otherwise demonstrating the subject-matter in hand. The work is one which will be found complete in all particulars.

Infant Feeding in its Relation to Health and Disease. By Louis Fischer, M.D. Fifty-four Illustrations and 24 Charts and Tables. Third Edition. Price, $2.00. Philadelphia: F. A. Davis Company.

DISEASES OF THE EYE.

In the preface it is stated this work aims to present to the students of medicine, in language they can comprehend, a digested summary of the known facts on ophthalmology.

Dr. Fox's ten years' experience as teacher and worker has peculiarly fitted him for the task of writing a book that is sure to prove a popular one in the hands of students and practitioners of medicine. In fact, this treatise is the outgrowth of a series of lectures delivered by the author at the Medico-Chirurgical College, Philadelphia. It is written in clear, comprehensive style, and everywhere can be found evidence of the author's extensive experience and sound judgment. Ophthalmologists will gain knowledge which will prove of interest and value to them by a careful reading of this work.

Diseases of the Eye. By L. Webster Fox, A.M., M.D., Professor of Ophthalmology in the Medico-Chirurgical College of Philadelphia, Pa.; Ophthalmic Surgeon in the Medico-Chirurgical Hospital. With five colored plates and two hundred and ninety-six illustrations in the text. New York and London: D. Appleton & Co., 1904.

EYE SYMPTOMS.

The diagnostic points in general disease which proceed from the eye are carefully collated in the little book prepared by Dr. Edward McGennis. The publishers have sent out many excellent little pocket compendiums for the general practitioner, and this one will take rank among the best.

Eye Symptoms as Aids in Diagnosis. By Edward McGennis, M.D. Bristol: John Wright & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Morphine-scopolamine Anesthesia.

Since Schneiderlein first introduced his method of anesthesia in 1900, 280 cases have been published by various observers, and although the advantages of this form of anesthesia are generally accepted, great differences of opinion have been expressed as to the proper dosage, and recently a few accidents have also been reported. G. Volkmann publishes the results of his observations, which extend over a series of seventeen cases (*British Medical Journal,* Feb. 6, 1904). To these seventeen cases he is able to add three which were anesthetized in Zimmerman's private practice, so that he is able to report on twenty cases in all. The operation included removal of the vermiform appendix, laparotomy for extra-uterine gestation, removal of goitre, gastrostomy, and the like. Instead of injecting 3 or 4 mg. (about 0.045 gr. or 0.06 gr.) of scopolamine and 1 cg. (about 0.15 gr.) of morphine as recommended by Schneiderlein, he found it advisable to give 12 mg. (about 0.18 gr.) of scopolamine and 1½ cg. (about 0.23 gr.) of morphine for four hours before the operation; he then repeated the same doses two hours later, and one-quarter of an hour before the operation he gave 3 mg. (about 0.045 gr.) of scopolamine. A few times in the case of old people or patients suffering from diseases of the internal organs he found it wiser to employ smaller doses. In three out of the twenty cases the dosage given sufficed to keep the patient anesthetized during the operation, and in the rest of the cases the anesthesia had to be deepened by ether inhalation (given drop by drop). In the majority of these cases the quantity of ether used was very small, and did not exceed 40 grammes in the hour. Volkmann emphasizes the fact that he did not inject larger quantities of morphine as some others have done, as he regards the bad effect in some published cases as being due to overdoses of this drug—for example, 12 cg. (about 1 4/5 gr.).

It is quite possible that one may do without any ether inhalation if one uses these large doses of morphine, but Volkmann looks upon the ether as rather an advantage than a disadvantage. The action of the scopolamine on the mucous membranes is to paralyze the glandular activity, and since ether irritates the mucous membranes and increases the secretion of the glands, it may be taken that small doses may act as a corrective to the alkaloid and as an adjuvant to the anesthetic action of morphine. He never experienced any retching or vomiting, tracheal gurgling, or asphyxia, and in not a single case was there any ill side-effect. The patients always lost consciousness by means of the injections, even when the anesthesia had to be deepened by ether, and since this unconsciousness is attained before the operation, while the patient is still in bed, there is none of that disagreeable struggling and anxiety which are so often seen with inhalation anesthesia. The sleep lasted on an average for six hours, the shortest duration being three hours. The muscles were completely relaxed in four cases, while in the others they lost markedly in tone, and relaxation was easily obtained by a few inhalations of ether. The vessels of the skin became dilated, showing the action of scopolamine over morphine. The pulse was generally increased in rate from 90 to 120, and the pressure was also increased. He recommends this anesthesia especially for hospital practice, at all events until more experience has been gained.

Decapsulation of the Kidney, with Reference to the Concomitant Intra-ocular Complications in the Chronic Forms of Nephritis.

Geo. F. Suker (*Journal of the American Medical Association*, Feb. 27, 1903) says that the operation of decapsulation so far is not warranted in all instances, nor does it offer any hope in cases of bilateral chronic nephritis with retinal complications.

Though there is an improvement in the eye ground directly after the operation, still it is decidedly temporary, judging from the present statistics.

The operation may be of service in unilateral nephritis with fundus lesions in the initiatory stages. These cases, however, are rare, and if found soon become bilateral. Therefore these latter cases would come under the first remark.

The mortality rate for albuminuric retinitis in chronic nephritis has not been lessened by the operation.

The statistics show that retinal complications are a decided index as to the severity of the kidney involvement.

In nearly all the cases of nephritis chronica the cardiac involvement is present and is an important prognostic factor. With the retinal lesion it is usually present.

Unilateral retinal lesions are the exception in chronic nephritis.

As yet the medical treatment of all these cases yields as good results as, if not a trifle better than, the kidney decapsulation.

Statistics of the mortality rate of albuminuric retinitis based on ureteral catheterization are indicated. This is to determine whether those that outlive the two-year period might be cases of unilateral nephritis, or are late in becoming bilateral.

Median Perineal Prostatectomy.

G. E. Goodfellow (*New York Medical Journal,* March 12, 1904) has operated by the median perineal route in cases of hypertrophy of the prostate approximately seventy-three times without any immediate mortality so far as he is aware. He describes the technique of the operation in detail. All of his operations were done under spinal anesthesia. Recently he has modified the operation a little. Instead of making an incision, as he has previously described in his papers, from the base of the scrotum to the margin of the anus, he now makes an incision an inch in length above the perineal center, and through this opening he can enucleate the prostate with his forefinger. If it is necessary to enlarge the opening he does so in the usual way. But through an ordinary incision he has enucleated a prostate weighing 7½ ounces. In no case has he failed to secure anesthesia when he has entered the canal. The needle is inserted between the second and third lumbar vertebræ.

Diagnosis of Actinomycosis.

At the recent meeting of the Paris Academy of Medicine, M. Le Dentis (*Lancet,* Feb. 27, 1904) referred to the difficulties in the diagnosis of actinomycosis and to the necessity which existed for a histological examination. He himself had just had under his own care a very interesting and deceptive case—namely, that

of an old man aged seventy-five years who was suffering from a tumor. The look of the growth and the multiple fistulæ in it led the medical men of Lyons to think that the case was one of actinomycosis. Examination of the pus, however, revealed none of the typical granules, neither did curetting the bone. Histological examination showed the growth to be a typical epithelioma.

M. Cornil referred to the possible absence of the characteristic granules. In one case under his care these granules, which could not be found at the first examination, were afterward discovered in large quantities in the spongy nodules from the bone. This, however, is by no means always so even in marked cases of actinomycosis. The ray masses, easily stained by violet, are as characteristic as the granules for purposes of diagnosis.

On the whole, however, the opinion was expressed that it is impossible to make a diagnosis in actinomycosis without a histological examination.

The After-effects of Head Injuries.

In regard to the treatment of head injuries T. C. English (*Lancet,* Feb. 27, 1904) says that in rather more than half of the cases cure may be brought about by medical measures; prolonged mental rest and the proper administration of mercury are the essential points. In a few of the cases the symptoms are mainly due to chronic osteosclerosis, and such cases may be almost certainly cured by trephining. In the remainder of the cases the symptoms are more persistent, and do not yield to general measures or to the removal of thickened bone only. He believes that in such cases these symptoms are the reflex results of lesions or irritations of the dura mater; and if the injury has involved the vault of the skull cure can be effected promptly by excision of the thickened or adherent dura mater and removal of any other source of irritation which may be present.

Mixed Tumors of the Salivary Glands.

F. C. Wood (*Annals of Surgery,* February, 1904) says (1) there is a group of extremely complicated tumors occurring in the facial region containing elements from both epiblast and mesoblast. (2) The complicated structure of the stroma, containing as it does embryonic tissue, cartilage, bone, fat, lymphoid tis-

sue, and rarely muscle fibers, is explained most easily by the assumption of an embryonic misplacement of mesoblast. (3) Twenty-four per cent of the tumors examined showed undoubted presence of epithelioma—the form and relationship of the cells of the parenchyma did not furnish sufficient data to justify these cells being regarded as of endothelial origin. (4) The theory of early embryonic displacement of epiblastic tissue during the formation of the parenchyma and submaxillary glands and the branchial clefts may account for the peculiarity of the cells found. (5) The mixed tumors of the salivary glands run a clinical course strikingly different from sarcoma and carcinoma, in that they grow slowly and are generally benign. The region of lymph-nodes is not invaded, and recurrences are likely to remain local in a considerable portion of the cases.

Spontaneous Perforation of the Gall-bladder Due to Stone.

Neck (*Deutsche Zeit. für Chir.*, Bd. 8) reports a case of a 43-year-old woman in whom spontaneous rupture of the gall-bladder into the abdominal cavity occurred. Laparotomy was at once performed, the result being an uneventful recovery. The writer finds that only eleven cases of spontaneous perforation of the gall-bladder due to stone have been operated on; and of these eleven cases, eight recovered.

The Formation and Resolution of Peritoneal Adhesions and Exudates.

H. G. Wetherell (*Annals of Gynecology and Pediatry*, March, 1904) says that peritoneal adhesions and exudates are essentially conservative in their purpose and effect. With certain rare exceptions, when the source of irritation or infection which causes them is removed and the necessity for their further existence is past, they will be taken up and disposed of almost or quite completely. Tympanites, through increasing the intra-abdominal pressure without peristalsis, and even so-called intestinal paralysis, are also means to the same conservative end. We should be most reluctant to antagonize any of these conservative agencies during the acute stage of the disease by untimely operation or

the administration of food or cathartics. Ordinarily an interval operation will be required for the removal of the source of the infection in order to restore the patient to health and insure immunity from relapses; such an operation in skilled hands is many times safer than taking the chances of leaving it alone, it is quite uniformly successful, and attended with an extremely low mortality.

MEDICINE.

The Urine in Beriberi.

H. E. Dunham (*British Medical Journal,* Feb. 27, 1904) says that his notes show that the metabolism in beriberi is seriously diminished. The amounts of urea and phosphoric and sulphuric acids may be very greatly reduced; it is suggested that the contributing organs, for example the liver, are seriously disturbed in their output, which is in accordance with the fact that patients complain of illness before the onset of marked symptoms of the involvement of the peripheral nerves.

The conjugated sulphuric acids and the neutral sulphur do not appear to be proportionately diminished.

The purin bodies do not seem to be of great interest in beriberi; as might be anticipated, they were abundant in the critical urination of a highly edematous case.

In a number of Tamils, on comparatively liberal diet, in whom no beriberi symptoms were detected, the excretion of urea and phosphoric acid was found to be remarkably low, though their uric acid was high.

Syphilis of the Trachea and Bronchi.

D. Neumann (*Journal of Laryngology, Rhinology, and Otology,* March, 1904) says that specific disease of the trachea and bronchi has been observed as a symptom of late syphilis either along with gummata of the larynx or without any such tertiary symptom.

Gummata of the larynx tend to break down, and the cartilage becoming involved leads to necrosis, luxation, or fracture. The healing of these ulcerations brings about the formation of fibrous tissue bands and cicatricial protuberances of the mucous mem-

brane, with resulting narrowing of the lumen. Serious dyspnea may afterward ensue, and with the bronchi also affected a condition of tracheal bronchial stenosis may exist. Such a condition may rarely, it is true, be secondary—a packet of enlarged, hard lymph glands pressing on the trachea and bronchi.

Besides the danger of death being caused by suffocation, there is a case reported of fatal hemorrhage by the ulceration extending into a branch of the pulmonary artery, and a phlegmonous inflammation in the anterior mediastinum from ulceration at the lower end of the trachea has been observed.

Tracheotomy has in many cases been very unsatisfactory, but of fourteen cases collected together by Vierling, in each of which tracheotomy was performed, twelve died.

As yet laryngologists regard as somewhat uncertain operations for removing the cicatricial bands and connective tissue protuberances in the trachea or bronchi. Such operations are difficult because of their situation and because of the great tendency to an early recurrence of adhesions and new band formations, etc.

Neumann describes in detail an interesting case of multiple tracheal stenosis with bilateral bronchial stenosis.

New Biologic Test for Human Blood.

Human blood can be distinguished, according to A. Robin (*New York Medical Journal,* March 12, 1904), from that of other animals, except perhaps of monkeys, by means of antiserum. Antiserum may be obtained by immunizing rabbits against human blood.

For immunization it is most convenient to employ the blood obtained from human placenta, which can be secured aseptically without much difficulty.

From six to eight injections of 8 to 10 cubic centimeters each should be made at intervals of three to five days, and the serum secured at least a week after the last injection.

At the end of the immunization period it is well to test the potency of the antiserum by securing a small quantity of blood from the ear vein or any of the deep-seated vessels.

To obtain the serum from rabbits for testing purposes it is not necessary to sacrifice the animal, as sufficient serum can be secured from any of the large veins or arteries, the femoral being the most accessible.

Care should be taken to have all solutions perfectly clear and the blood sufficiently dilute. The antiserum should be used pure.

Control tests on blood from different domestic animals should invariably be made.

With all the precautions observed, a distinct clouding within thirty minutes and a precipitate within two hours is certain evidence that the blood is human.

In medicolegal cases the tests should be repeated at least twice, so as to exclude any possible error.

The Absorption of Fats.

Fats are believed to be split up into fatty acid and glycerin in the small intestine and absorbed into the epithelial cells either as fatty acid or soap, and there reconverted into fat. Evidence of this synthesis has been largely based upon the observation of fat granules in the basal parts of the cells after appropriate staining. B. Moore (Physiol. Lab. Univ. Coll., Liverpool, 1903) publishes some experiments on this subject, and points out that as fatty acid gives the same appearance as fat, this evidence is conclusive. He has, however, made chemical estimations which establish the correctness of the above view. The washed and scraped-off mucous membrane of a digesting animal contained 15 to 35 per cent of its fat as fatty acid, while in the fluid of the lacteals, obtained by sucking it up into capillary tubes, 96 per cent of the fatty material was present as neutral fat. Hence the synthesis was completed in the mucous membrane of the intestine.

THERAPEUTICS.

Red Mangrove Bark in Leprosy.

I. Dyer (*Journal of Cutaneous Diseases,* February, 1904) says that in 1899 P. Guichard, a Key West druggist, called attention to the use of this remedy, and A. Moreno employed the several preparations of the bark, relating excellent results as a consequence. Except for some newspaper notoriety, little attention was paid to the report, coming in an irregular way. Within the past two years, however, Duque and Alfonso in Havana have

given the watery extract, and one case at the San Lazaro is looked upon as cured after this treatment. In the treatment, Duque with Moreno believes that the effects are evident in early cases in from six to ten months; later cases improve, but cure is not established. The preparations employed are a watery extract of the red mangrove (*Rhizophora* L.) bark, a dried extract after percolation, and salves made from powdered bark. The powder itself is employed in the baths. Ten grammes of the extract is given night and morning, with a daily increase, until 80 to 100 grammes is taken each day. Duque is quite enthusiastic over the treatment, but no results have been published yet. A series of cases at the Louisiana Leper Home were put on dried extracts of the mangrove bark in 1899, and this treatment was maintained for nearly two years without result. It is fair to say, however, that there was no systematic observation of the cases at that time, and the treatment may have been irregular. It is proposed to essay a new set of cases, under strict observance of the Havana régime, both as to medication and bathing as well as diet.

The Treatment of Gall-stones.

I. Corsin (*British Medical Journal,* Feb. 6, 1904) in reporting a case of typhoid fever with gall-stone colic as a complication or early sequela takes occasion to discuss the medical treatment of gall-stones. For the attack itself, if it is at all severe, morphine is practically the only effectual remedy, although good results have been obtained with dionin. In milder attacks hot fomentations, drinking hot water, chloroform (but if slight anesthesia, troublesome reflex is apt to occur, and deeper narcosis brings risks of its own; moreover, there is the danger of inducing violent vomiting), belladonna, which is supposed to paralyze the sphincter muscles near the ampulla of Vater, chloral, or antipyrin are occasionally useful. In the intervals between the attacks attempts at "dissolving" the calculi may be made, and probably the free drinking of warm alkaline waters, preferably at a spa (for example, Carlsbad, Gerez, Vichy, Marienbad, etc.), holds out the best prospect, not so much by virtue of rendering the bile alkaline, but more likely by diluting it, increasing the flow, and generally stimulating action. Salol and salophen are more useful than salicylic acid or the salicylates. Oleate of soda may be beneficial,

and favorable reports have been given of a mixture of turpentine and sulphuric ether. In cases associated with constant pain and fever calomel has proved useful. Large doses of oil (olive, cod-liver, and castor mixed) if tolerated may do good. When the stomach resents this treatment lipanin may be tried, or glycerin in Vichy water.

The Treatment of Hour-glass Stomach.

B. A. Moynihan (*British Medical Journal,* Feb. 20, 1904) says that in many cases of hour-glass stomach there is a narrowing not only in the body of the stomach but also at the pylorus. This illustrates the undoubted fact that gastric ulcer is often multiple. The result, so far as the treatment of the condition is concerned, is that in many of the cases no single operation will suffice to fulfil all the requirements. If gastroenterostomy is performed from the cardiac pouch, the pyloric pouch remains undrained. Symptoms of stasis are then observed, as in a case recorded by Terrier, and a second operation is necessary. An anastomosis from the second pouch is obviously futile. A gastroplasty which relieves the obstruction in the body of the stomach does not deal with the pyloric narrowing. In many cases it will be necessary to perform a double operation, gastroenterostomy from both pouches, gastroplasty combined with gastroenterostomy from the pyloric pouch, gastrogastrostomy with gastroenterostomy or gastroplasty and pyloroplasty.

Antistreptococcic Serum in Scarlet Fever and Diphtheria.

F. P. Mackie (*Lancet,* Feb. 20, 1904) says that antistreptococcic serum is of distinct value in a certain number of cases of scarlet fever, particularly in those where the throat lesion is severe and toxemia is going on.

Bacteriological examination will give no sure guide as to the cases in which serum will be beneficial, therefore it is advisable to give the serum early and to make the bacteriological examination afterward.

The serum ought to be given early in the disease just as in diphtheria. The longer the disease has lasted before the serum

is used the less likelihood is there that it will be beneficial. Antistreptococcic serum is too often brought in with the strychnine and oxygen, when it is unreasonable to expect it to do good.

If the first dose or two have no effect on the temperature, its continuation will probably not be of any value.

The serum is liable to produce urticario-erythematous rashes.

Even in those cases in which it does no good there is no evidence to show that it does harm.

The Treatment of Lobar Pneumonia.

W. Gilman Thompson (*Medical Record,* March 12, 1904) in discussing the treatment of pneumonia emphasizes the following:

1. The importance of not crowding an overtaxed heart with too much stimulation, and especially of basing the selection of the proper variety of cardiac stimulant upon the existing balance between the conditions of vascular tone and the effort the heart is already making.

2. The uselessness of the so-called specifics for pneumonia, and as a rule of expectorants.

3. The importance of the prevention of indigestion, and particularly of tympanites.

4. The great value of hypodermoclysis in certain cases.

5. The uselessness of topical applications excepting for the purpose of relieving pleuritic pain.

6. The necessity of prescribing proper intervals of rest in which the patient is free from incessant efforts at medication.

The Treatment of Purpura in Children.

In regard to the treatment of this affection in children W. L. Stowell (*Archives of Pediatrics,* March, 1904) says that dietetics, especially the use of orange or lemon juice, are as important as drugs in cases of the scurvy kind.

Calcium chloride increases the coagulability of the blood and checks the hemorrhages. Vegetable acids, astringents, turpentine, and arsenic are useful. Among the newer drugs stypticin and suprarenal gland stand first. Stypticin is given in doses of one-

tenth of a grain. Suprarenal gland is administered in the form of adrenalin chloride solution, 10 drops of a one-to-one-thousand solution every two hours. MacAdam reports the cure of purpura fulminans in a girl of five years. Blackburn and Finsey report similar cures in a man and a woman with purpura hemorrhagica. The adrenalin acted promptly in virulent cases after other remedies failed. It is now apparently our best drug.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Extra-uterine Pregnancy.

A. H. Cordier (*New York Medical Journal*, Feb. 27, 1904) discusses the pathology, diagnosis, and treatment of this condition. In ten years he had encountered fifty-four cases. Intraperitoneal was to extraperitoneal rupture in the proportion of three to one. The diagnosis of ectopic pregnancy prior to rupture is attended with great difficulty, and was rarely made. The question of the treatment of these cases is so thoroughly settled as to admit of very little discussion. The operation of choice is a median suprapubic section, with removal of the misplaced strictures. Vault drainage in ectopic gestation is an incomplete procedure attended with much danger at the time of the operation, leaving the woman with a pathology that will in most instances continue to produce disagreeable or dangerous symptoms until it is completely removed.

Secondary Cancer of the Ovary.

G. Glockner (*Monats. f. Geb. u. Gyn.*, January, 1904) analyzes ten cases of secondary cancer of the ovary. The primary seat was the stomach in six, the uterus in two, the intestine in one, and the breast in one. He believes that in many cases of bilateral cancer of the ovaries the disease is secondary. Indeed, the primary tumor is not rarely overlooked. On that account the ali-

mentary canal and uterus should always be submitted to careful examination. The curette and examination of scrapings are to be employed when there is the least suspicion of uterine disease.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Tobacco Nerve Deafness.

W. Wengrave (*Annals of Otology, Rhinology and Laryngology*) after giving particulars of seventeen cases of deafness concludes as follows:

1. That they were all well marked cases of nerve deafness (unattributable to other causes) occurring in heavy smokers.

2. That the loss of low tones in fifty per cent suggests an auditory equivalent for a recognized ocular lesion.

3. That the disease was symmetrical.

4. That there was impairment of color sense in eight of them, and definite scotoma in four cases.

5. That eighty per cent showed marked improvement on abstinence from tobacco, supplemented by drug treatment; three were cured. But the habit was so strong and the will so weak in the rest of them that the forecast and the results were not encouraging.

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ORIGINAL CONTRIBUTIONS.

THE USE AND ABUSE OF PESSARIES.

BY A. M. LEONARD, M.D., PHILADELPHIA, PA.

There is no doubt that the medical profession is prejudiced against the use of the pessary. There is also no doubt that the abuse of this instrument in years gone by has been the cause of this dislike. Still it has proved itself so valuable an agent in properly selected cases in my hands that I write in its defense. I will say at the outset that this prejudice is largely confined to the younger members of the profession. When I graduated ten years ago I had a contempt for the pessary, and secretly thought that the man who used it was necessarily incompetent; but severe necessity has taught me otherwise. Eminent gynecologists are in favor of its use; for example, Mann has said: "There is a great deal of incredulity in the medical profession at large with regard to the good results which can be obtained from the use of the pessary. Without pessaries I should not know what to do for a considerable number of the cases that come to my office, and I should almost have to give up gynecology, although I might continue to do laparotomies."

Goodell in his lectures has placed great confidence in the use of the pessary, while Emmet has stated that the man who gets bad results from the use of the pessary does not know how to use it, the fault lying with the man, not with the instrument. Thomas has devised and recommended several forms of pessaries, and Skeene does not give them up, although he devotes much attention to their abuse.

In the first place we must know what we can do with the pessary, and not attempt to accomplish wonders. The pessary will not loosen adhesions nor put back a uterus in its proper place. It should never be used as a repositor. This is the first mistake. It should never be inserted into a vagina where the

uterus is bound down by adhesions, nor even where the uterus is in malposition. It is a cardinal working rule that the uterus must be in proper position before the pessary is inserted.

Again, great care must be exercised in the selection of the form of pessary and its size in the various cases. An ill-fitting, awkward pessary can be the source of great harm. If the uterus is bound down by adhesions, there is absolute evil in the use of the pessary. It is necessary to place the uterus in proper position before its insertion. The common mistake is the use of a pessary which is too short. To understand this we must study its mechanism. Mann illustrated this fault very well some years ago, as follows:

"Let me illustrate by this sound a uterus in retroversion, my fingers representing the place at which the ligaments are attached. I can tilt the sound forward either by pressing forward on its upper portion or backward on its lower portion; in case of the uterus I cannot do this, for I cannot get my fingers behind the fundus to tilt it up without performing a laparotomy. But we can use the cervix as a handle to replace the organ, provided the uterus is rigid enough. The pessary goes in behind the uterus; it does not, however, as might appear, press upward on the fundus, for it is anatomically impossible for the pessary to push up so high in the posterior fornix of the vagina. I have opened the abdomen when the uterus was held in place by a pessary, and have been able to demonstrate that the pessary was not in contact with the uterus at all; I could even put my finger between the uterus and the pessary. The pessary acts simply by pulling up on the posterior vaginal wall, and thus indirectly drags the cervix upward and backward so as to act in the same way as if we had pushed on the front of the cervix. Now, you will understand from this explanation why it is that when a pessary is too short it will utterly fail to do good, for it does not pull the cervix backward and upward far enough. Moreover, if the pessary is not long enough, its upper bar does not reach high enough to push the uterus past its center of gravity, and the version will be converted into a flexion; the uterus, so to speak, being doubled over the bar of the pessary. But if the uterus is pulled over far enough, this cannot occur. The pessary must be adapted to the vagina, and this organ differs as much in different individuals as any other organ.

"Do not rely on the pessary to replace the uterus; first reposit the uterus and then insert the pessary, having it long enough to keep the uterus in its normal position. One of the roughest-

looking specimens of the medical profession that I ever saw was a country practitioner who knew more about the use of pessaries than almost any other physician I have ever met. He failed in one case simply because he did not know he could get a pessary large enough. He understood perfectly what the trouble was, and he was delighted when I opened a drawer in which my pessaries are kept and handed him one not quite as large as a horse-collar. I gave him a few like it, and he was enabled to meet the indications in his case. A man must have a little natural mechanical skill and taste in order to use pessaries properly; and, in fact, a man without mechanical ingenuity ought not to undertake gynecological practice."

According to Goodell, and it is true in my own work, the best pessary is the old-time Hodge's closed lever pessary, or its modified form, Smith's; this pessary properly used is better than the cup and stem pessary, or that wretched instrument, the ring pessary. The reasons for the excellent action of the Smith-Hodge pessary are seen if we will study its mechanics; when properly adjusted one end of the pessary impinges upon the anterior vaginal wall, while the other rests behind the cervix on the posterior wall of the vagina. While the pessary has a lever action, its powers are really twofold: as it stretches the vagina upward and backward, it acts similarly on the cervix. The womb turns as a pivot on its ligamentous attachment at its central point, and hence the body of the womb is tilted forward. This makes the uterus itself a lever, with its fulcrum the attachment to the bladder. This tends to overcome retroversions, although not retroflexions unless associated with retroversion.

The lever action of the pessary itself is due to the fact that the power of pressure is applied to the long arm or lower limb of the lever by the visceral pressure on the anterior vaginal wall, while the fulcrum is the posterior vaginal wall, the short arm behind the cervix directly pushing up the weight of the body of the uterus. It is better for the lower limb to rest on the soft anterior wall of the vagina than against the posterior surface of the symphysis or the rami of the pubic bones. If the pessary is too large or wrongly curved, this is likely to happen, but not so commonly with the Smith modification.

With the respiratory act the descending diaphragm forces the abdominal viscera down upon the bladder, which in turn forces down the anterior vaginal wall and cervix; hence there is a gentle rocking movement to the pessary which is excellent in result. But it is obvious that the pessary should not injure the structures

over bony points, and should not be too large; if it is, it really becomes a ring pessary.

There are two curves in both the Hodge and Smith pessaries —one large, one small, suggesting the letter S; but Smith makes the small curve sharper than the Hodge, and hence the large curve should be introduced first and its end placed behind the cervix.

Goodell formulates the following rules, which the writer learned as a student and knows their value:

1. The uterine or upper end must rest always behind the cervix.

2. Always in the Smith pessary, and generally in the Hodge, the uterine end has the larger curve.

3. The concavity of the large curve must always look toward the anterior wall of the vagina, and the convexity rest upon its posterior wall.

4. When *in situ* the pessary should fit so loosely as to be freely movable and to admit the finger very easily between its anterior bar and the pubic symphysis.

5. In retroflexions the pessary must be long enough to span the angle of flexure in the womb and to press on the uterine body above the angle; otherwise the bent womb straddles the pessary and the flexion becomes worse.

6. After the introduction of a pessary the womb must always be put into its proper position either by the sound or by double palpation, viz., by a finger of the left hand in the vagina pushing the cervix backward, and by the fingers of the right hand hooking the fundus upward and forward through the wall of the abdomen. If this is not observed, more harm than good may be done.

7. If the womb does not stay in its proper position but falls back, the pessary is either not long enough or not curved enough, and it must be changed until a suitable one is found.

The best method to insert a pessary is as follows: Place the patient on her back across the bed as near to the edge as possible, with her knees drawn up. The physician then passes the fore and middle finger of his left hand just within the vulva, gently separates the lips, and presses downward cautiously on the perineum. He should hold the tips of the fingers of the right hand so that the concavity of the pessary looks toward the woman's left thigh. This end of the pessary is then slipped in between the fingers of the left hand, which are then removed, and the whole instrument enters the vagina by a steady pressure downward on the perineum. As it enters the fingers of the right

hand should turn it half around on its long axis, making the concavity of its large curve look forward. The pessary now may be quite immovable, with its upper bar pressing the cervix in front. This position is more or less painful, and the physician should quickly introduce the index-finger of his left hand, and hook down the curve of the pessary until it slips over the cervix into the cul-de-sac behind. This can be facilitated by elevating the anterior bar of the pessary with the other hand. Examine everything carefully before withdrawing the finger.

No pessary should hurt nor abrase the surface. To prevent this latter occurrence it is well from time to time to remove the pessary and examine the vagina. Abrasions are generally found at the point of union of the cervix with the posterior vaginal wall. The patient should always take a daily douche of tepid water, and report to her physician at once if anything seems amiss.

The removal of a lever pessary is most simple: simply hook the forefinger over the lower bar and make gentle traction. The pessary will, as it were, guide itself out, rotating spontaneously on its long axis.

There are of course a variety of pessaries. The intra-uterine stem pessary is intended as a splint to straighten out the flexion either backward or forward. Unfortunately the lining membrane of the uterus, delicate in character, is often injured by the action of such a body. In the form of smooth glass or hard rubber it may not do such harm, yet it is a dangerous procedure which to-day has been largely discarded.

Cutter's retroversion pessary and the Thomas modification have an extra vaginal base of support, being kept in position by a perineum strap, buckled to a waistband. They can be removed and replaced by the patient, and the pressure carefully regulated. They may be tried when intra-vaginal pessaries fail, but they are generally a source of annoyance and chafing. Ring-and-stem pessaries and cup-and-stem pessaries are stiff and unwieldy, but are useful in those cases where there is complete prolapse of the uterus and vagina with the absence of the vaginal portion of the cervix; or in severe cases of tears of the vagina and perineum, preventing the use of the ordinary pessaries, they are demanded.

It is a cardinal rule to remember that every pessary needs watching, producing if neglected deep ulcerations. I examined a woman some years ago who had worn a pessary for over a year unattended. The condition of her vagina was almost indescribable, foul-smelling to a degree, with deep ulcerations. The

pessary, neglected, unclean, had been left to its own devices. There are cases on record where these instruments have been found embedded in the soft parts, requiring an operation to get them out.

In conclusion I would state that properly used the pessary is a most valuable adjunct to every physician's armamentarium, which should not be neglected or despised.

RUPTURE OF THE MEMBRANA TYMPANI.*

BY SAMUEL G. DABNEY, M.D.,

Professor of Ophthalmology and Clinical Professor of Otology and Laryngology in the Hospital College of Medicine, Louisville, Kentucky.

GENTLEMEN—This patient, Mrs. M——, a married woman, is aged thirty-five years. Two weeks ago she received a blow from a person's hand on her ear. Immediately following the blow she says she felt an intense ringing in her ears, as if a hundred bells were ringing at once; that it made her head ache, and she was sick and nervous; she was nauseated and dizzy following the injury. So much for the history.

She presented herself to us a week ago, and I told you then that there was a clearly marked rupture of the drum membrane; that this rupture, of course, had been due to the concussion of the air driven in her ear, in the auditory canal, by the force of the blow.

You will notice in examining the ear I make use of this little aural speculum of hard rubber; they are made of both metal and rubber; personally, I prefer those made of hard rubber. We draw the auricle backward and upward and push the speculum down into the canal, not too far; if you take too small a speculum it will go far down into the bony part of the canal, and be painful to the patient; if you take one too large it will not dilate even the cartilaginous part of the canal; so you must have the size proportionate to the patient's auditory canal.

We find that the rupture of the drum membrane has already healed, and this shows to us better what has not been done than what has been done. The fact that this rupture has healed of itself is proof to us that this woman has had no medicine put into her ear since receipt of the accident. The tendency of the physician and surgeon is to put drops into the ear after the receipt

*Clinical lecture delivered at the Hospital College of Medicine.

of such an injury; it may be oil, which is used by the majority of people, and which is exceedingly bad practice; or it may be the ear is douched with water, which is almost equally bad. Either one of these methods would, in cases such as this, lead to suppuration of the middle ear. Either one of them would have converted a simple, harmless rupture of the drum membrane into possibly a dangerous suppurative otitis media.

So the lesson this case teaches in regard to the course of rupture of the membrana tympani is that the rupture will heal without any other treatment than simple cleanliness and letting it alone; that cleanliness is carried out by simply wiping the auditory canal clean and dry with some antiseptic cotton, and wiping out the blood-clots if any are present.

Rupture of the drum membrane in this case was not attended by any hemorrhage. This is exactly in accordance with my experience in other cases. Hemorrhage of any consequence is rarely seen.

Observe again that the symptoms have lasted in this case for two weeks. We will test her hearing in a moment and determine what difference she actually has in the two ears. She now complains of impaired hearing and ringing in her ears. She says there is still some little tenderness and pain, but it is evidently not acute.

The rupture in this case was in the posterior and inferior portion of the drum membrane, and took the shape, as is true in nearly all cases, of a well defined slit.

The diagnosis in most cases of rupture of the drum membrane can be made with a certain amount of probability from the subjective symptoms, and the case before us is typical. The patient describes the blow she received upon the ear, instantly followed by an explosion; that in turn was followed by dizziness, by some nausea, by deafness and pain; the nausea subsiding within the first twelve to twenty-four hours, deafness still continuing, pain becoming less but still occasionally present, vertigo diminishing or disappearing in two or three days.

By far the most common cause of rupture of the drum membrane is a box or blow upon the ear. Thirty-three out of fifty-four cases observed by Chimani, an Austrian surgeon, were due to this cause. The lesson we are to learn from that is that boxing the ears is a dangerous thing to do. It is dangerous either as the infliction of punishment in children, or in athletic sparring, and should be avoided.

The next most common cause of this rupture would probably

be falls upon the head. I have seen three or four cases due to this cause. A rather unusual case, and one out of the ordinary, that I have seen was a man who was riding through the woods and was struck in the ear by the twig of a tree, a thorn of which penetrated his drum membrane. I recently read a paper before one of the local medical societies on this subject, and a curious coincidence was that two other gentlemen present had seen similar cases, where persons riding through the woods had been struck in the ear by a twig which burst the drum membrane. Bacon reported one case of this kind to the American Otological Society in 1888, and made the statement that it was a great rarity.

Another quite common way in which the drum membrane is injured is by picking at the ear with a toothpick or ear-spoon, knitting-needle, etc., and some sudden disturbance causes the patient to suddenly turn the head, pushing the foreign body far into the ear and puncturing the drum membrane.

Another common cause is the injudicious attempt at removal of foreign bodies. I have tried to impress that lesson upon you at different times, and particularly in the case of the child who came here with a shot in its ear. I showed you how readily the shot came out by the use of a syringe and warm water. I told you at that time that the simplest and safest and generally the most effective way of removing foreign bodies from the ear was to syringe the ear with warm water. If you are going to attempt the removal of such foreign bodies by operative means, by forceps, spoon, or what you like, then you should be very careful and have good illumination from your head mirror, otherwise you are likely to do more harm than good. Some of you perhaps have de Schweinitz and Randall's text-book on the Eye, Ear, Nose and Throat. In the article on injuries to the drum membrane written by Würdemann, of Milwaukee, you will find an admirable illustration of a little piece of rubber tube which a child had put into the external auditory canal, where it was probably doing no harm, and yet a doctor by injudicious attempts to remove the foreign body had pushed it through the drum membrane. The injury the patient had inflicted upon itself by the foreign body was practically *nil.* It could easily have been removed by syringe and warm water or by proper instruments, but injudicious attempts at removal had pushed this piece of rubber through, making a large hole in the drum membrane. I emphasize this point because I think it is a mistake which is frequently made.

Of course the prognosis, and to some extent the treatment, in

this class of cases must depend upon the manner in which the injury has been inflicted. I will confine myself in talking upon this part of the subject to the case before us—rupture due to a blow or box on the ear. The prognosis is generally good. We may expect the patient to recover with almost if not quite as good hearing as before the accident. In this respect it is of great importance, however, to be sure that rupture of the drum is not complicated by injury to the labyrinth. If the labyrinth has been injured, then the prognosis is far more serious as regards restoration of hearing. We determine that point first by determining how intense is the deafness. If deafness is very profound the probabilities are strong that there is injury to the nerve of hearing. In the second place, we will determine the point by the use of the tuning-fork. We will place it on the vertex, and if this woman has an injury of the auditory nerve she will say, "Doctor, I hear the tuning-fork best in my good ear; I do not hear it at all, or very imperfectly, in the affected ear." If, on the other hand, the auditory nerve is perfect, she will hear the tuning-fork as well or probably better in the injured ear than she does in the sound ear. This test is of great value in differentiating disease of the middle ear from disease of the internal ear. So much for the prognosis: generally good unless the labyrinth is involved.

I must put another provision in the prognosis; I must say it is good unless the labyrinth is involved, and also unless suppuration has already begun. If by injudicious treatment, by syringing, or other medication, or if by some accidental infection, or by some other means, suppurative inflammation of the middle ear has taken place, then the prognosis for entire restoration of hearing is not so good. These cases of suppuration seem to run a more violent course and give rather less favorable outcome, as a rule, than those which are not due to traumatism.

The treatment generally may be dismissed with a few words. It consists essentially in letting the patient alone, in wiping or cleansing the ear with a piece of absorbent cotton, or a clean piece of antiseptic gauze, and telling the patient not to put any water in the ear. If pain is severe, then it is well to apply three or four leeches just in front of the ear, or over the mastoid. Under no circumstances should you use a fountain syringe or any drops that we often use in other cases.

Sometimes the case will be of sufficient severity to demand internal treatment. Ringing in the ears adds greatly to the patient's nervousness, and a little phenacetine or bromide of potassium will do a great deal toward controlling it.

We will give this patient five powders, each containing four grains of phenacetine and twenty grains of bromide of potassium, and tell her to take one three or four times a day according to the intensity of the tinnitus and pain in her ear.

Without the use of the tuning-fork test in this case I would say there was no involvement of the labyrinth; it is one of purely middle-ear disease. We will caution her still not to put any water in the ear.

The question has been asked, How long will rupture of the drum membrane last before it heals? The average time is one to three weeks.

SYMPTOMS AND PHYSICAL SIGNS OF PNEUMONIA.*

BY J. A. WITHERSPOON, M.D., NASHVILLE, TENN.

While it is a well known fact that croupous pneumonia follows a systematic and regular course in its symptoms and physical signs more constantly or in a larger percentage of cases than any other specific fever, yet the classical description given in text-books is subject to many variations in practice, and it is to these that I hope to call your attention. Its initial symptom is, in the majority of cases, a prolonged, distinct chill, coming preferably at night, marking the time of systemic infection and followed by the characteristic symptoms at once, and the physical signs in the lung in twelve to twenty-four hours, yet the writer has observed many departures from this rule. In children a chill is rare, but marked nervous symptoms, even convulsions, may be the first evidence of the coming storm. Again, my experience teaches me that many cases have distinct prodromal symptoms with an incubative period of several days, with severe and persistent headache, general muscular pains, loss of appetite, and other symptoms of coryza before assuming the regular course. In old people and alcoholic subjects the onset is rarely by a chill or pain in the side; but great muscular exhaustion and nervous phenomena, even delirium, is the rule. In typical cases, regardless of the beginning, the symptoms become characteristic. A rapid rise of fever comes early, associated with pain and a full, bounding or inflammatory pulse, hot, dry skin, flushed cheek, often observed only on the side upon which the lung lesion is found; the tongue is coated white and rather thick,

*Read before the Tennessee State Medical Association, April 13, 1904.

and prostration and muscular debility are among the early manifestations, which are progressive with the anemia and leucocytosis, which follows the general toxemia and complete loss of appetite. The bowels are usually constipated, and the urine scanty, high-colored, loaded with urates, and shows absence of chlorides, occasionally albuminous. Herpes labiales occur in many cases. All of these symptoms, except the pain, continue and grow progressively worse. The respiration and pulse are markedly increased. The fever runs high, with slight remissions. The toxemia progressively increases, manifesting itself by marked exhaustion and prostration, often delirium, which may be wild and maniacal, as seen in alcoholic subjects and of pneumonia at the apex, or the patient may assume a low typhoid condition with muttering delirium, dry tongue, dilated pupils, tympanitic belly, slight jaundice, and a dicrotic pulse, with insufficient capillary circulation and cyanosis, and in desperate cases carphologia, subsultus tendinum, and even coma vigil may develop.

In the majority of the cases the crisis will come about the fifth to the seventh day in one of three ways. A sudden profuse sweat is most common, but occasionally by means of a serous diarrhea or diuresis, when the temperature will drop to normal or nearly so, sometimes subnormal. The skin is pale and leaky; the pulse soft and less rapid; the respiration becomes easy and nearly or quite normal, the mind clear, and all outward signs disappear rapidly, except the prostration, cough, and sputum. While the prostration may be marked and sometimes extreme, it usually responds to a rapid convalescence; the cough is less annoying, and the sputum less tenacious and often mucopurulent, and resolution of the solidified lobe of the lung will rapidly take place, unless by streptococcus infection we have an abscess (one of the four terminations), followed with irregular chills, fever and sweats, and localized physical signs; or from excessive purulent infection or plugging up a blood-vessel we may have gangrene, which fortunately is rare, with its sudden collapse, great prostration, cyanosis, foul breath, and rapid dissolution; sometimes an organizing exudate leaves a fibroid pneumonia which may be tubercular. While these are possibilities after crisis, yet they are very rare, as are the other complications, which I shall not mention. The chill which marks the storm of systemic infection is rarely repeated. Occasionally repeated rigors may occur in the aged and enfeebled. Its effect upon the nervous system may suggest the severity of the attack, or even have prognostic importance.

Pain, which is common in the typical cases, is an early symptom, often preceding the chill; it is of a sharp, stabbing character when due to associate pleuritis, or dull and aching when due to the involved parenchyma of the lung. It is often felt at the nipple or over the lesion in the lung, yet it is not infrequently far removed from the site of trouble—in the abdomen, back, or shoulders, suggesting the probability that it is of infective origin. It is increased by cough and respiration, and is often the most complained of symptom of the early stage. It fortunately subsides early. Pain is exceedingly transitory, often absent in the pneumonia of old people or weak subjects. The writer has often noted its complete absence in pneumonia of the apex of the lung.

Temperature.—The next prominent early symptom is temperature. The fever rises rapidly after the chill (in fact, there is a rectal elevation during the chill), reaches its zenith in twenty-four to thirty-six hours, and runs a high course with slight remission until crisis, whch occurs usually on the fifth or seventh day, when it drops to normal or below by one of three ways. The first and most common is by a profuse sweat; the second is by a serous diarrhea; and the third by the passage of large quantities of urine. This temperature rarely returns, if no complication occurs. It must be borne in mind that high temperature does not always control the severity of the attack, as some of the most fatal cases will be those of great prostration and low temperature throughout. In old people the temperature is rarely high, and in a few cases they are afebrile. Again, I would suggest that surface temperature is unreliable in this disease. I have often seen the axillary and mouth temperature low with a high rectal temperature. This is especially true in the old and in children. In some cases the temperature may leave by lysis, or we occasionally have a pseudocrisis early and a second rise of temperature. After the crisis the skin is moist and cool, the pulse soft and weak.

Shortness of breath or labored breathing is an early symptom, and in some cases, either early or late, it amounts to a dyspnea. The respirations are short, quick, labored, or shallow, often cut short by pain. Fresh inspirations are required in the enunciation of short sentences, making speech interrupted, and the alæ nasi contract and dilate rapidly. While this dyspnea has been attributed to the inflamed lung, pain, lack of oxygenation, etc., yet the fact that at crisis and the cessation of the fever it ceases, notwithstanding the obstruction to breathing is still

present, would seemingly denote that the toxemia on the nerve centers and increased combustion may play a part in its production. In children it is usually more rapid and frequently has an expiratory grunt, while in older, enfeebled subjects it may be very little above normal and very shallow and irregular. The increase of the respiration over the pulse, breaking their normal physiological ratio, should not be forgotten.

Cough very soon in the vast majority of cases is associated with the fever, dyspnea, and pain. It is at first hacking, ineffectual, and painful, and often suppressed. This is especially noticeable in children, who frown and intuitively suppress it as long as possible. Cough may be entirely absent in old people. A very harsh cough, which is paroxysmal in character, usually denotes bronchial involvement, and is not characteristic of pure pneumonia. Very soon the dry cough will begin to bring up the peculiar or pathognomonic sputum. It is very tenacious, albuminous, and clings to the vessel when inverted, and is usually of a distinct rusty color. This color may vary from an orange-yellow to a prune-juice color, but the rusty, tenacious sputum is most constant and distinctive. Occasionally during the course of the disease we may have fibrinous casts expectorated, being the exudate from the minute bronchioles. It should be remembered that in children the sputum is swallowed and not seen, and that in old people it is often absent. The sputum is occasionally greenish in color and less tenacious, and in all cases after crisis is more liquid and often mucopurulent or catarrhal in character. Chemically it is albuminous, and contains a large quantity of chloride of sodium. This, in a measure, explains the absence of the chloride of sodium in the urine. Microscopically the sputum contains many micoörganisms, especially the diplococcus lanceolatus, and blood-corpuscles, leucocytes, and epithelial cells. As a rule the physical signs appear soon after the initial chill, and vary with the stages, but are usually quite characteristic. The exceptions to this rule I have noted quite frequently, especially this winter. In central pneumonia they are often delayed for several days, and in two cases did not appear until after crisis, in both of which very tardy resolution was present; in fact, in both I strongly suspected tuberculosis, but after two or three months the exudate disappeared, leaving a seemingly normal lung, except a weak respiratory murmur, and in one a cog-wheel respiration still exists.

Inspection is, to the experienced eye, of inestimable value.

The patient will in the first stage be upon his back, but as the exudate appears will be found lying upon the side affected, thighs flexed, expression very anxious, face flushed, which soon limits itself to a flushed spot upon the cheek of the affected side. The superficial arteries are pulsating and full in first stage. The patient looks what he is—a very sick man. The alæ nasi are actively dilating and contracting; the conjunctivæ are injected; occasionally jaundice will be present; herpes upon the lips is common, and is of diagnostic importance, as it is practically absent in other pulmonary troubles; later cyanosis will supervene. In the first stage, or that of congestion, which is usually short, we find the movements of the affected side restricted, with a costal type of respiration, and abdominal breathing. In the second stage, or red hepatization, we have an increase of the above signs, and expansion over affected lobe may be entirely absent, but after crisis and the establishment of gray hepatization the expansion of the affected side will return, and become normal gradually, and the facies of a very sick patient assume a weak but hopeful and tranquil expression.

Palpation will in the first stage, while unsatisfactory, show an increased tactile and vocal fremitus, which will be in proportion to the amount of the congestion. The heart's action will be forcible. In the second stage both vocal fremitus and resonance will be exaggerated, and pulsation may be felt from the transmitted heart impulse through the solidified lung. It should be remembered that a thickened pleura or a central pneumonia may prevent the increased tactile and vocal fremitus from being felt. In the third stage vocal fremitus gradually diminishes, and returns to normal. When acute pleurisy exists a rough pleuritic thrill can be felt.

Percussion is one of the most valuable physical signs, and the changes found by it in pneumonia remain longer than any other. In the first stage a tympanitic note, especially at the margin of the congested area, may be found, but in most cases an impaired resonance will be present, and in central congestions no change may be appreciable until the second stage. In this stage we have increased resistance to the finger percussed, and marked dulness over the solidified lobe, with an exaggerated resonance over the normal lung above the lesion. In this way the extent of the lesion can be easily outlined by the percussion dulness. In a solidified lower lobe of the right lung, which is the most frequent site, I have repeatedly gotten marked tympany over the right apex below the clavicle. In the third stage the

dulness becomes less marked, and clears up frequently in spots, as shown by the areas of tympany often found and the increased pitch of the percussion note.

Auscultation, which is by far the most valuable method in determining the physical signs which typify pneumonic changes, should be carefully and daily practiced. In the first stage we have that "breezy" sound of normal breathing absent, and over the congested lung an unnatural weakness in the respiratory murmur, with slightly prolonged expiration, and an exaggerated murmur over the normal lungs. If plastic pleurisy is associated, we will get the pleuritic friction sound near the ear on both inspiration and expiration, which will cease when the breath is held, but it is at the end of inspiration that we hear the most typical sign of this stage, the crepitant râle which some believe pleuritic, while others claim it is produced by the expansion of the air vessels when they are stuck together by the adhesive material which is the first product of the coming fibrinous exudate, the perfection of which removes the crepitus which is heard. The transmitted sounds of the voice are slightly exaggerated over the affected lobe, even in this stage. In children the crepitant râle is often absent, but can be heard after a spell of fretting, for they rarely cry. There seems to be an intuition to protect the lung, hence children with pneumonia rarely ever cry lustily. The heart sounds in the first stage are loud, with marked accentuation of the pulmonary second sound. In the second stage all râles and pleuritic sounds disappear, and bronchial or tubular breathing is heard over the consolidation, and is more marked than in any other disease; it is heard at first only on expiration, but later is heard on both inspiration and expiration. This sign is always present, unless the large bronchus is plugged up with mucus. Bronchophony is nearly always present, and is peculiar in the prolongation of the sound after the word spoken is completed. Bronchophony, like tubular breathing, may be absent in a plugged bronchus, or with a pleuritic effusion complicating the pneumonia. Egophony is sometimes heard under these conditions at the margin of fluid. Pectoriloquy is heard occasionally in children. The heart sounds are intense in this stage, and can sometimes be heard transmitted through the solidified lung. In the third stage the tubular breathing gives way to a blowing bronchovesicular breathing before returning to normal. Vocal resonance takes the place of bronchophony, and the râles return in the form, first, of the subcrepitant or "râle redux," to be followed by sibilant and son-

orous bronchial râles, which continue together with large bubbling mucous râles to the end of resolution. In a few cases the writer has noted a continuation of bronchial breathing, with dulness on percussion after crisis, without the appearance of the "râle redux," and in those cases resolution has been very rapid. Notwithstanding these apparently typical physical signs, it must be remembered that the rusty-colored tenacious sputum is about the only pathognomonic symptom of pneumonia, but if one will take the subjective symptoms and study their relation to the physical signs as they change in the three stages, a diagnosis should not be difficult.

I desire to call attention before leaving the subject to the fact that the physical signs are greatly modified, and some of them absent, in the pneumonia of old people, owing to the senile changes of the chest and lungs and the vascular system, and to impress the fact that the heart and the toxemia are the danger-signals to be watched in pneumonia.

In conclusion, I will say that while I believe croupous pneumonia is a specific infectious disease, in which the toxins infect the general system through the blood, and that the lesion in the lung is a local manifestation, I believe that the germs from which those toxins are elaborated are deposited primarily in the lung, where they procreate and give off their toxins, from which the general infection takes place primarily.

THE pure food bill now before the United States Senate reads as follows: "To investigate the adulteration of foods, drugs, and liquors when deemed by the Secretary of Agriculture advisable, and the Secretary of Agriculture, whenever he has reason to believe that articles are being imported from foreign countries which are dangerous to the health of the people of the United States, shall make a request upon the Secretary of the Treasury for samples from original packages of such articles for inspection and analysis, and the Secretary of the Treasury is hereby authorized to open such original packages and deliver specimens to the Secretary of Agriculture for the purpose mentioned, giving notice to the owner or consignee of such articles, who may be present and have the right to introduce testimony, and the Secretary of the Treasury shall refuse delivery to the consignee of any such goods which the Secretary of Agriculture reports to him have been inspected and analyzed and found to be dangerous to health or falsely labeled or branded."

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

MUNICIPALITIES AND SANITATION.

The difficulty of bringing sanitary affairs within range of municipal conception is sometimes a cause of complaint, but as we review the manifest progress made during past years in all matters of public hygiene it must be admitted that the enormity of public shortcoming seems to be lessening, and that there is not now the indifference to preventive sanitation which is often ascribed to governing bodies. If we take the matter of disinfection, there is probably no community sufficiently unenlightened not to take some of the preventive measures science has devised for the disinfection of houses. Much of the work done under the name of disinfection is of course perfunctory and useless, but some communities have gone to the extent of supplying themselves with steam disinfectors, which make the disinfecting process thoroughly efficient. Drainage is now a matter which occupies the attention of every municipal engineer, and the medical profession, which was the first to direct attention to the necessity of systematic control of drainage systems, may now be content to leave this in the hands of those accustomed to deal with these problems.

The manifest progress of school hygiene has been most satisfactory. Any form of compulsory school attendance has one inevitable feature connected with it, that of spreading the infectious diseases. The control of the graver forms is already well in hand. The determination of some of the English governing bodies to apply the same methods in vogue with diphtheria to measles will be watched with interest.

The disposition of sewage is now entirely outside the realm

of medical suggestion. The various schemes for preventing the dangers of putrefaction are almost too numerous to mention. In latter years ordinances against expectorating in public places have been almost everywhere enacted, and perhaps there has been no single municipal action which has more effectively contributed to the formation of a general conception of the advantages of cleanliness.

The sanitarium treatment of consumptives is slowly but surely winning the adherence of communities, and the people are beginning to understand that economy of the highest kind is being served by the institution of preventive measures even of such an expensive kind.

The most modern of sanitary reforms is that comprehended under the title of the "milk depot." The example set in 1894 at Fecamp in France by Dr. Dufour, in establishing the so-called "Goutte de lait" dispensaries, from which "prepared" sterilized milk is distributed philanthropically to the poorer classes for the use of their infants, is being followed both in France and England. Liverpool especially is going ahead in this direction, and several other large towns in England have either already decided to supply, or are at present considering the advisability of supplying, sterilized humanized milk at a cost to bring it within the reach of the poorer classes. Milk is prepared humanized by mixing it with a suitable proportion of water, cream, lactose, and common salt. It is sterilized (by steam) in bottles, sufficiently large to contain enough food for one meal—the usual method being to distribute nine bottles in a wire basket for use during twenty-four hours. Each bottle represents one meal, and is not to be opened until required for use, thereby preventing home contamination of milk by storage in an insanitary pantry or living room. Nipples are provided for use with each bottle, and these are under periodical inspection as to cleanliness by the officers of the sanitary authority.

The care of the infant is gradually being recognized as a source of municipal economy. The growth of degenerate and defective classes is closely allied to the care of the young. That municipalities have only lately concerned themselves with this important matter is only another illustration of the obvious fact that first causes are often the last to come within range of practical recognition.

EDITORIAL NOTES.

The Forcing of Jewish Doctors into the Russian Army.

News from St. Petersburg shows that a great percentage of Jews have been sent to the front, including most of the Jewish doctors of that city. Of the 180 medical men who left last month for the seat of war 110 were Jews. The authorities claim that the presence of Jews in Russia at the present critical time is undesirable. It is claimed that much influence was brought to bear by non-Jewish physicians to get rid of their rivals in this way. Jewish physicians sent to the front receive only 900 roubles, whereas Christians get 1250 roubles. It is hard for us to understand that such feelings can exist in the profession of a country such as Russia. The Russian Jews have always had a hard time of it, but now the burden is made doubly heavy by the war in the East, which is made an excuse for getting rid of them.

Japan and Modern Medicine.

The two most prominent characters holding the attention of the world to-day are probably Buster Brown and Admiral Togo. It may therefore not be inopportune to call attention to the notable contributions made by Japan to modern medicine. The bacillus of tetanus discovered by Kitasato has been instrumental in furnishing us with the modern treatment of this disease. The bacillus of dysentery discovered by Shiga was another notable find, and the discovery of adrenalin by Takamine has furnished surgeons with a hemostatic of unheard of qualities. When the history of the medical department of the Japanese army comes to be written, it will doubtless be found that all civilized nations will find they have something to learn from this nation in the way of organization and efficiency.

Alcohol in Proprietary Medicines.

The fact so long recognized by the medical profession that proprietary medicines are made up principally of alcohol is gradually being learned by the public in general. Quite recently at a meeting of the Ontario Council of the Royal Templars this question was discussed. It was decided to ask for legislation prohibiting the sale of all medicines which contain a greater percentage of alcohol than is needed for their preservation. It

is to be hoped that the Templars will be successful in their efforts, but before they are they will have a hard fight, for the manufacturers of patent medicines usually keep a number of paid lobbyists in their employ whose business it is to ward off any legislation such as that proposed.

The Pure Food and Drug Bill.

The pure food and drug bill which has recently been introduced in Congress is one that should interest every practitioner in this country. The adulteration of foodstuffs and drugs by unscrupulous manufacturers has gone on unchecked for too long. It is the duty of every medical man to see or write to his congressman and senator and urge upon them the necessity of supporting this measure. It is time that the influence of the profession should be shown to the politicians, who will only listen when they think their future interests are at stake.

New Fields for Medical Men.

In one of the current magazines is the beginning of a new serial by Dr. S. Weir Mitchell, entitled "The Youth of Washington Told in the Form of an Autobiography." Dr. Mitchell has already won high honors in the field of literature, and his new story bids fair to be extremely interesting. An incursion into another field of endeavor has been made by Dr. John C. Hemmeter, of Baltimore, who recently wrote the music of a cantata entitled "Hygeia" given by the Washington Sanaer Bund. The critics gave the composer much praise for his work.

Cancer Research Abandoned.

That the researches in regard to the etiology of cancer have failed miserably is a melancholy fact, but true nevertheless. We are as much in the dark in regard to the cause of this dread disease as we ever were. The New York Senate Committee on Finance has after spending $100,000 refused to appropriate any more money for the maintenance of the Buffalo Cancer Laboratory, asserting that nothing could be shown for the money expended.

ITEMS AND NOTES.

A SEVERE epidemic of measles prevails in Morgan county, Kentucky.

THE Edinburgh University has bestowed the Cameron prize on Prof. Niels Finsen.

BUBONIC PLAGUE has broken out in the Indian coolie district of Johannesburg, South Africa.

DR. HEINRICH STERN has severed his connection with the New York School of Clinical Medicine.

THE Russian authorities are planning to have a medical attendant on each of the through Siberian trains.

THE Latin-American Congress of Medicine and Hygiene at Buenos Ayres, Argentina, was opened on April 3.

THE second Congress of French-speaking Physicians of America will convene June 28 at Montreal in the halls of Laval University.

TWO distinguished physiologists, Prof. Luigi Luciani (of the University of Rome) and Prof. Angelo Mosso (of the University of Turin), have been named Senators of the Kingdom of Italy.

THE nurses of the State of Massachusetts are urging the passage of a law similar to that already existing in New York, New Jersey, North Carolina, and Virginia, by which an official register of properly qualified nurses has been established.

PROF. GUIDO BACELLI of the University of Rome, who has for several years past held a portfolio in the Italian government, first as Minister of Public Instruction and later as Minister of Agriculture, has lately resumed active work as a clinical teacher.

STATISTICS recently published by the Italian Minister of Public Health show that the general death-rate of Italy, which in 1887 was 28 per mille, had fallen in 1902 to 22 per mille. The diminution in the death-rate from contagious diseases was particularly striking.

THE Johns Hopkins University Hospital suffered severely in the recent terrible fire at Baltimore by the destruction of a house property from which a considerable portion of its revenues were drawn. Mr. J. D. Rockefeller has given $100,000 to make good the loss caused to the hospital.

THE trained chimpanzee "Consul," valued at $125,000, succumbed recently to an acute affection at Berlin. He put up at good hotels and always had a room to himself, with engagements booked for two years in advance at a monthly salary of $4000, and his life was insured for $100,000.

THE seventh International Congress of Hydrology and Climatology will be held at Venice in September, 1905. The Italian Minister of Public Instruction, Prof. V. E. Orlando, is president of the honorary committee, and Prof. De Giovanni, of Padua, is president of the organizing committee.

A PROPOSAL to found a university in British Columbia was put forward at a recent meeting of the Tourist Association of Victoria, and has been favorably received by the citizens of that province. The success of that scheme will probably mean the establishment of a Canadian medical school on the Pacific coast.

A REPORT by Dr. Enrique Acosta, published in the *Cronica Medico-Quirurgica of Havana* for September, 1903, states that since the establishment of the laboratory maintained by that journal in 1887 to the end of 1902 the total number of cases treated was 1227. Among these there were in all 17 deaths, a mortality of 1.38 per cent. The highest percentage of mortality in any one year was 4.34 in 115 patients inoculated in 1891, and the lowest 1.29 in 1890.

THE fifth International Congress of Dermatology will be held at Berlin this year from September 12 to 17. The following questions are proposed for discussion: (1) Skin affections in anomalies of metabolism; (2) epitheliomata and their treatment; (3) syphilitic diseases of the circulatory system; (4) *a*, the state of the question of the spread and prevention of leprosy since the date of the first leprosy conference held in 1897; *b*, the present state of knowledge concerning anesthetic leprosy.

THE Memoirs of Baron Percy which have recently been published in Paris should make interesting reading. Percy was surgeon-in-chief to the armies of the First French Republic. Afterward he was inspector-general in the time of the great

Napoleon. In conjunction with Larrey he reorganized the medical service of the French army, and in recognition of his work he was made baron by the Emperor. At the Restoration he was dismissed because he had taken part in the campaign which ended on the field of Waterloo.

THE whole region of Northeastern Siberia from the Yakutsk territory down to Mongolia is said to be suffering from a visitation of smallpox. Medical men are few and far between in the affected districts. In many cases the district surgeon has to visit settlements which are distant one hundred miles and even more from his house. Mongolians gladly allow themselves to be vaccinated, but there is a difficulty in procuring vaccine, and much of what is obtained is said to be rendered useless by the cold to which it is exposed in transit.

THE Russian police make, according to an exchange, practical use of the Roentgen ray. At Kief recently a drunken prisoner was robbed of about $300 by cell mates. They denied the crime, but two-thirds of the money was found in their clothing, and the Roentgen ray revealed the other hundred dollars, which was in gold, snugly stowed away in their respective interiors. They had swallowed it. Against detectives provided with the Roentgen ray, the radium ray, and other marvels yet to come, the criminal of the future will need to be armor-plated like a battleship.

IN these days original Japanese contributions to medical science are taken as a matter of course, yet it is worthy of note, says a contemporary, that it was a recognition of the superiority of Western medicine that first led the Japanese to study and adopt European life, language, and methods. Before the year 1867 the only European language known to the Japanese was Dutch, which was studied by the interpreters as a medium for acquaintance with Western medical science. Possibly the choice of Dutch may ultimately be traced to the influence of Boerhaave, the famous physician of Leyden, from whom as it happens Peter the Great took lessons in 1715.

ACCORDING to a recent census of the results which have just been published by the Italian Minister of Agriculture, there are in Italy at the present time 22,168 practitioners of medicine and surgery, of whom 29 are women. The number of dentists is 813, of whom 18 belong to the gentler sex. There are 13,887 midwives; 2500 veterinarians; 16,740 pharmacists, among whom

there are 140 women (this number includes assistants as well as principals); 696 phlebotomists, masseurs, etc., of whom 42 are women; and 13,109 nurses, of whom 6342 are male and 6767 female. These figures taken together show a grand total of professors and parasites of the healing art in Italy of 69,913, of whom 49,030 are men and 20,883 are women.

Dr. Ambroise Aguste Liebault, of Nancy, the founder of treatment by hypnotic suggestion, died a month ago at the age of eighty. Born at Faieres in the Meurthe Department on September 16, 1823, he studied medicine at Strasburg and took his doctor's degree in 1850. The subject of his inaugural thesis was "Femorotibial Disarticulation." He soon abandoned surgery and devoted himself to the study of hypnotism. After practicing for a year at Pont-Saint Vincent he settled in Nancy, where he opened a clinic for the gratuitous treatment of poor patients by suggestion. In this way he soon secured a large field for observation, and he published the results of his researches in 1866 in a work entitled "Sleep and Certain Analogous States." He was the precursor of Charcot in the investigation of these phenomena.

According to the report of the New York State Charities Association to the State Board of Charities, one of the most disastrous measures passed by the legislature and signed by Governor Odell was that which forbids the establishment of any hospital or camp for the treatment of patients suffering from pulmonary tuberculosis in any town without the consent of the town's governing board and of the board of supervisors of the county in which the town is situated. The effect of this law is to make it impossible for any city in the State, or any fraternal order, charitable society, or philanthropic individual to establish a hospital, camp, or other establishment for the treatment of the tuberculous outside the city limits, except under conditions which are practically prohibitive. The report says that in the opinion of the association the country districts were sufficiently protected by the laws then existing, which forbade the establishment of any institutions for the tuberculous in the State without the approval of the State Board of Health, and which laid down other restrictions.

The *Journal of the American Medical Association* states that the Russian Red Cross Society was founded in 1860 at Moscow and now has more than 600 organized committees, forty-two hospitals, two training schools for nurses, eight soldiers'

homes, and two sanatoria for children. There are more than 4000 women nurses and a battalion of men nurses. Our Russian exchanges have contained of late many notices of the way in which relief work for the war has been systematically proceeding. The Red Cross supplies at Charbin now include nearly $40,000 worth of materials for dressings; they have medical supplies for 30,000 beds. Besides this 26 field hospitals have been set up with 5050 beds. To each 500 beds there are five physicians, one administrator, fifteen women nurses, and thirty other attendants. Six of these have already been installed at Charbin. The society is being constantly and lavishly supplied with gifts of linen, preserves, wines, and other delicacies, with contributions of money. Holland is preparing a field hospital, and another is being equipped by Russian residents at Berlin, which will soon start for the seat of war.

An exchange says: "Professor Royce, recently returned from Egypt, gave an interesting account of the success which has attended the efforts to extirpate the mosquitoes and malaria from Ismailia. He said that when Major Ross visited Ismailia in September, 1902, there were 2000 cases of malaria annually in a population of 9000 people, of whom 2000 were Europeans. The authorities at Ismailia loyally carried out his suggestions as to filling up marsh land close to the town and cleaning out small irrigating channels and stagnant waters. That involved an expense of $22,000, and at the same time they organized a drain brigade and a petroleum brigade, and now people could sleep in any of the houses in the European quarter without mosquito nets. Malaria cases had been reduced from 2000 a year to 200. As a matter of fact there were no fresh cases of malarial infection in Ismailia; there had been no deaths among Europeans during 1903, and only four among natives, against thirty deaths the year before. The improvement was so wonderful that Prince D'Arenberg, president of the Suez Canal company, hopes soon to see Ismailia the sanatorium and watering-place for Cairo. Major Ross, who was present, remarked that the success of the anti-malarial campaign at Ismailia had taught two things—that it was possible to rid a large town entirely of mosquitoes, and that it was equally possible to eradicate malaria. He had been asked to draw up a report as to malaria cases in India, which were responsible for 300,000 admissions to hospitals from the troops and jail prisoners. With the Ismailia figures before him he felt confident that these high figures would soon be reduced by at least one-third."

NEW PUBLICATIONS.

A PRACTICAL TREATISE ON NERVOUS DISEASES.

To the creditable works of American neurologists—Gray, Dana, Church, Mills, *et al.*—is now added another volume by Savary Pearce, of Philadelphia, written, as the author tells us, for the student and general practitioner. There are points about the book which will be of service to both. It is not so large as some of the more pretentious text-books, yet little is omitted which is essential to a working knowledge of nervous diseases and their underlying pathology.

Descriptions are terse and to the point; plates are fairly numerous, and many of them excellent. Especially good are some of the schematic diagrams of nerve-paths and their possible lesions.

Though mental diseases are reserved for a later volume, a chapter is given to General Paresis. As the disease is admittedly parasyphilitic rather than directly specific in its nature, it seems to us that advice to spend time in vigorous antisyphilitic treatment, even in early developing cases, may be regarded as doubtful wisdom, which might better give place to more and fuller emphasis upon the amelioration which has followed sundry tonic and nutritional measures.

The formulary, though brief, will appeal to the busy practitioner, and in general the conciseness and convenient size of the book will commend it to his use.

The volume is attractively clothed and well printed.

A Practical Treatise on Nervous Diseases. For the Medical Student and the General Practitioner. By F. Savary Pearce, M.D., Professor of Nervous and Mental Diseases in the Medico-Chirurgical College of Philadelphia, etc., etc. Pp. 401, bound in cloth. New York and London: D. Appleton & Co., 1904.

DISEASES OF THE NERVOUS SYSTEM.

To Edward E. Mayer, A.M., M.D., of Pittsburg, Americans are indebted for the translation and editing of this second American edition of the work of Prof. H. Oppenheim, of Berlin, prepared from the author's third German edition.

Oppenheim's work is so well known that extended comment upon its excellence is quite unnecessary, since few neurologists are more widely quoted than he.

This second American edition not only gives us all that is new in

the third German edition, but the editor has added the results of such neurological research as is of still later date.

The general arrangement of the work commends itself for its simplicity and directness. Nearly one hundred pages are given to symptomatology and methods of examination; then follow sections upon diseases of the cord, peripheral nerves, brain, the neuroses, diseases of the sympathetic system, and toxic conditions with predominating nervous symptoms.

The plates are fair. The large amount of matter between these covers compels a thinner paper and a closer print than we like, but a wealth of wisdom is here made available for the neurological seeker.

Diseases of the Nervous System. A Text-book for Students and Practitioners of Medicine. By H. Oppenheim, M.D., Professor at the University of Berlin. Translated and Edited by Edward E. Mayer, A.M., M.D., Pittsburg, Pa. Second American Edition, Revised and Enlarged. With Three Hundred and Forty-three Illustrations. Bound in cloth; Pp. 953; price $5.00. Philadelphia and London: J. B. Lippincott & Co., 1904.

DISEASES OF THE INTESTINES.

The profession will welcome the appearance of a second edition of Max Einhorn's work on Diseases of the Intestines. The work has been but little changed, as few new facts in connection with the intestine have been presented during the past few years. The work traverses the whole field of intestinal diseases in a satisfactory manner to the general practitioner.

Diseases of the Intestines. A Text-book for Practitioners and Students of Medicine. By Max Einhorn, M.D., Professor of Medicine in the New York Post-Graduate School. Second Revised Edition. New York: William Wood & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Treatment of Cancer of the Breast by Operation.

W. Watson Cheyne (*Lancet,* March 12, 1904) says that we may now form a fairly final judgment with regard to the treatment of cancer of the breast by operation. The writer says:

"We may say, for example, that taking the average of all cases operated on, favorable or otherwise, something like fifty per cent will remain well for a number of years, and in those cases in which the tumor is small and well limited and the glandular infection is slight the proportion of successes will be considerably greater. We may also say that where recurrence takes place it is most usually internally, and the suffering of the patient is less than if no operation had been performed, while life is considerably prolonged; and that these results are due to the more precise and extensive removal of all possibly infected areas—the breast, the skin, the pectoral fascia, the muscles, the glands, etc.—in the modern operation, and also (and this is very important) to the fact that the cancerous deposits are not cut into at the time of the operation and the cells thereby distributed through the tissue. Again, we may conclude that cancer is a local disease at its commencement, and if only all the existing disease can be got rid of there is no reason for any further development from the primary focus. It is purely a question at the time of the operation of getting beyond all the disease. Recurrences, both general and local, are the result of direct spread from the original focus. Epithelial growths cannot originate in the lymphatic glands or other non-epithelial structures; the cancer cells are the direct progeny of cells in the original tumor. At the same time I do not think there is a greater tendency to cancer in one individual than in another, and that for example the formation of cancer in one breast after removal of the other for the same disease may just as likely be a fresh development altogether as a growth secondary to the original tumor. I have seen cylindrical epithelioma appear in the rectum in a patient whose tongue had been successfully excised for a squamous epithelioma five years previously, I have seen a rodent ulcer occur after a successful operation for cancer of the breast, and so on, and I must say I

believe in the existence of a general tendency to cancerous development. But even if this be the case, and the patient may one day develop another cancer elsewhere, there is no argument against the removal of the original disease as completely as possible, seeing that it may be many years, if at all, before any fresh trouble arises, and that on the other hand, if the original disease is left or only partially taken away the life of the patient must be comparatively short. Above all things remember that in the first operation lies the patient's only chance, and that it must therefore be done with the greatest thoroughness, however limited the disease may be at the time of the operation."

Tubercular Hernia.

Abel (*Deut. med. Wochenschrift,* No. 47) reports a case of a man who came under his care suffering from an incarcerated hernia on whom he operated on account of a severe ileus. On opening the sac it was found to contain a large quantity of clear exudate, and on its serous surface numerous tubercles were found. The following laparotomy revealed a general peritoneal tuberculosis with effusion and adhesions. On the other side another hernia was discovered, evidently due to the mechanical pressure of the exudate. The patient made an uneventful recovery, and a year later was still in good health.

Obstruction and Consequent Distention the Cause of Appendicitis.

C. Van Zoralenburg (*Journal of the American Medical Association,* March 26, 1904) says that simple infection does not account for the suddenness of the attack nor early severity for the pathologic changes in acute appendicitis. The evident interference with the blood-supply is best accounted for by an increased intra-appendicular pressure. Simply injecting bacteria into the appendix will not produce appendicitis unless used in abnormal amounts and virulence. Subperitoneal ligation of the appendix with a simple ligature without distention cannot be made sufficiently permanent to produce a general infection of the appendix, typical of appendicitis in the human being. Experiments in dogs show that hydraulic pressure equal to the arterial tension maintained within the lumen of the appendix for a short time is promptly followed by typical appendicitis. The blood-supply in an extremity may be cut off with impunity for hours;

but in the appendix the ever-present bacteria at once begin an infection, their entrance into the tissues being facilitated by the opening of normal and traumatic avenues by the very distention which cuts off the circulation. The importance of making a complete diagnosis and prognosis during the first twelve hours of the attack is emphasized. This study suggests the possibility of infections or other lesions being produced in other hollow viscera, especially in the gall-bladder, the stomach, and intestines, by temporary overdistention.

Traumatic Tuberculosis of the Lung.

Gebauer (*Deutsche med. Wochenschrift,* No. 45) reports a case of a man without any hereditary predisposition who received a blow on the right side of the chest which produced a contusion; this disappeared in two weeks, though he constantly complained of pains in the right chest. Four months later a dulness was found over the apex of the injured side, and occasionally tubercle bacilli were found in the sputum six months after their presence was constant. The author does not doubt that the condition was brought about by the traumatism.

MEDICINE.

Blood Changes in Dementia Paralytica.

A. Diefendorf (*British Medical Journal,* March 5, 1904) gives the results of regular and systematic microscopical examinations of the blood in eleven cases of dementia paralytica. The hemoglobin was uniformly estimated with a Fleischl's hemometer, and the erythrocytes counted with a Thoma-Zeiss hemocytometer. The greater part of this work was done by one observer. The examinations were made weekly and sometimes biweekly, at the same time of the day, upon the same day of the week, the diet of all the patients being uniform. The hemoglobin in all the cases showed a moderate anemia, becoming more marked as the disease advanced. During the terminal state the average percentage was higher than during the immediately preceding period. The erythrocytes showed a normal average in nearly every case, and in no instance was there an average subnormal count, though occasionally the number of cells sank to a low normal. During the period immediately prior to the terminal state the erythrocytes tended to sink, but

during the terminal state a marked rise was noted, which was even greater in degree than that seen in the hemoglobin during that state. Observations upon the relationship between the condition of nutrition and the number of erythrocytes showed that the slight diminution in the number of cells corresponded as the disease advanced with the gradual loss of weight, but in the terminal state, when the loss of weight was exceedingly marked, the number of cells increased considerably.

The examination of the leucocytes did not give any uniform results. In three of the cases a gradual fall was noted, while in three others in which they were low at the time of the first examination they remained low, and in three more they varied during the whole period. In all these cases, however, a rise in the number of leucocytes, amounting in most to a leucocytosis, was recorded during and immediately preceding the onset of the terminal state. In examining the percentage of the different forms of leucocytes by differential counts a uniform pathological increase of the polymorphonuclear variety occurred in all but one of the eleven cases. This increase was most pronounced during the terminal stage, with the exception of one case, in which it was at its height during a stage of excitement some months before, though in this case the average highest percentage occurred during the terminal stage. The progressive moderate anemia involving especially the hemoglobin, and the tendency to a polycythemia and an increase in the percentage of the hemoglobin in the terminal state, were the conditions of most importance noted; while of the pathological conditions in the leucocytes the most important were the appearance of a terminal leucocytosis and the presence of a leucocytosis in paretic attacks of an epileptiform nature, together with the uniform increase throughout the disease of the polymorphonuclear variety. The presence of a leucocytosis in the terminal state and during paralytic attacks suggests the toxic origin of the disease.

Heart Complications in Dysentery.

A. Nenninger (*British Medical Journal,* Dec. 19, 1903) has analyzed the cardiac complications of a number of cases of dysentery which came under his care on their return from China. Most of the patients were suffering from the chronic form; a few were seen under the influence of relapses. In many instances the first sign of cardiac involvement appeared during convalescence, and was a marked acceleration of the pulse-rate on rising

from bed; in two out of three of these there was some increase of cardiac dulness to the left. From these slight affections all stages could be followed of severer heart disease. Among more serious examples were enlargement of the heart to both right and left and mitral systolic murmurs with accentuation of the pulmonary second sound, all accompanied by increase in the pulse-rate. Most cases recovered entirely, but in two the dilatation of the heart persisted, and the patients had to be invalided out of the service. The author holds that there can be no doubt that the heart condition is here due to a specific action of the dysenteric toxin upon the heart muscle, for which it has a particular predilection. It is not so easy, however, to account for those instances in which the brunt of the disease is borne by the valves; of these the author quotes two cases coming under his own observation. He leaves the question open as to whether the complication is due simply to dysentery or to mixed infection. He moreover records four cases in which the disease exercised a deleterious influence upon the nervous mechanism of the heart; two of these suffered from such extreme tachycardia that they had to be invalided out of the service.

In all Nenninger found that out of 47 cases of dysentery, in 14 at least, or 29.7 per cent, there was a cardiac complication, and of these six, or in other words 12.7 per cent of all the cases of dysentery, had to be invalided out of the service on account of the condition of their hearts. He furthermore finds that out of 88 deaths from dysentery in the marines, in 17 the lethal factor was cardiac failure. He hence infers that in all cases of this disease the state of the circulation must be particularly observed, and that proper attention to its disorders may be of the greatest help in treatment.

Fulminant Hemorrhagic Purpura.

A. Lerber (*Lancet,* March 12, 1904) has published an account of a rare case of purpura terminating fatally in twelve hours. The patient was a healthy girl thirteen months old, one of a healthy but slightly neurotic family. The child had not been ill, except for a slight attack of bronchitis, which did not call for medical treatment. During the night of January 5 she became restless, and seemed very collapsed at 6 A.M., so that a medical man was called in. At 7 A.M. on the 6th he found the child quietly taking food. Distributed over the chest, arms, and legs he observed a number of hemorrhagic spots of a bluish-red color

about the size of lentils and even larger. The pulse was quick, but there was no pyrexia. He prescribed a warm bath. Called in again at 9.30 A.M., he found numerous similar spots coming out all over the face and body, some as large as a five-shilling piece. At 11.30 A.M. the temperature was 99° F., the respirations were 60 per minute, and the pulse could not be counted. The child became comatose, and passed away quietly at 1 P.M. A post-mortem examination was not permitted.

Dr. Lerber remarks that a sister of the patient died four years previously from bronchopneumonia at the age of two years after a skin eruption which may have been either measles or a "similar skin affection," as the mother called it.

The Pathologic Histology of Hodgkin's Disease.

W. T. Longcope (*Bulletin of the Ayer Clinical Laboratory,* October, 1903) says that Hodgkin's disease should be considered as a distinct clinical and pathologic entity; the lesions in the lymph-glands and other organs are especially characterized by the early increase in the lymphadenoid tissue, with later proliferation of endothelioid cells, formation of uninuclear and multinuclear giant cells, thickening of the reticulum, and finally overgrowth of connective tissue. Eosinophiles, though not specific, are frequently found in great abundance. Together with the abundance of eosinophiles in the lymph-glands, the eosinophilic leucocytes and myelocytes of the marrow-bone are increased; the process originates in lymphoid tissue, and during the course of the disease there are constantly being formed new lymph-glands, which ultimately become the seats of the lymphomatous growths; in rare instances the retroperitoneal lymph-glands may be the only group affected. The etiology of Hodgkin's disease is so far unknown. The tubercle bacillus plays no part in the production of the lesions.

Sterility Due to the Male.

E. H. Grandin (*Medical Record,* March 26, 1904) emphasizes the importance of gonorrhea and syphilis as etiological factors in the production of sterility, and enters a vigorous protest against present educational methods, by which young men are kept in ignorance of the wide-spread dangers attending the contraction of these diseases. Gonorrhea is responsible not alone for sterility, but also for many cases of pelvic disease in women and blindness in children. Man is responsible for race suicide in

its true sense; in fully forty-five per cent of the cases of sterility in women the man is the responsible party. With syphilis, while a woman might conceive she as a rule miscarries, which practically amounts to sterility. The laity fails to realize and physicians do not lay sufficient stress upon the preponderant influence of the rôle played by men in the etiology of sterility in women. In every case of sterility the semen of the male should be examined, because although a man may be able to copulate he may be incapable of impregnation. In from six to eight per cent sterility is due to the fact that the man is sterile in that his semen does not contain spermatozoa, although he possesses the power to perform the sexual act. Every young man should be instructed as to the risk he runs when he contracts gonorrhea or syphilis, and the possible risk he carries to the woman whom he marries. By proper educational methods the operating gynecologist will be deprived of nearly 60 per cent of his work, while on the other hand the human race will be immeasurably benefited.

In concluding his paper Dr. Grandin says that from the present standpoint man is not the boasted lord of creation but the exterminator of his species, and of all the animal creation he shows the least regard for his mate in that he often implants into her system a disease which renders her sterile.

Comparison Between the Medical Uses of the X-ray and the Rays from Salts of Radium.

Francis H. Willikins (*Boston Medical and Surgical Journal,* Feb. 25, 1904) makes the following summary: (1) The rays from radium salts, unlike the *x*-rays, are not serviceable in diagnosis, either by means of radiographs or of fluoroscopic examinations. (2) The Beta-rays are useful as a therapeutic agent in certain skin diseases and new growths, if the diseased tissues are superficial or are not more than about 1.25 centimeters (one-half an inch) below the surface of the skin or accessible mucous membranes. (3) The Beta-rays from radium salts will heal some cases of new growths that are not healed by the *x*-rays, and they act more promptly, but not over so large a surface at one time as the *x*-rays. (4) Radium salts of an activity of 8000 or considerably more are not sufficiently strong to be efficient. Pure radium salts which have a radioactivity of about 1,500,000 are not too strong for the work to be done. (5) The radiation from radium salts, unlike that from the *x*-ray tube, is uniform. (6) Great care should be exercised to avoid burns.

The Relation of Water to the Public Health.

Marshall O. Leighton (*St. Paul Medical Journal,* April, 1904) says that polluted water has little or no relation to the public health unless it is used for domestic purposes.

Water once polluted is unsafe for domestic use unless artificially purified. The self-purifying power of streams is not constant, and with the means at hand cannot be determined with exactness.

In general the water of a running stream is not suitable for drinking purposes in its raw state, as in all streams where the flow is sufficient throughout the year to supply any quantity of water directly the drainage area would be so large that efficient police regulations would be impracticable. The best water-supply is that derived from storage reservoirs or lakes, the drainage areas of which have been cleared of all possible sources of sewage pollution. Even in case of pollution in such a system the storage which the water receives is a helpful though not effectual safeguard.

Diabetic and Non-diabetic Glycosuria.

Heinrich Stern (*American Medicine,* March 19, 1904) says that the diabetic state may be well established before glucose is excreted by the urine. Diabetic glycosuria is nothing more than the salient feature of the second stage of the diabetic deterioration.

Glycosuria is a symptom, an enunciation of manifold other disturbances of ectogenous as well as of endogenous causation.

With the assistance of various discrepant factors we are enabled to differentiate clinically between the diabetic and non-diabetic form of glycosuria.

Duplex melituria is the result of two concurrent or intercurrent affections of dissimilar character, having the one symptom glycosuria in common.

The recognition of duplex melituria depends on the alternate prominence of one set of symptoms, including the respective glycosuria.

Pericarditis.

Geo. L. Paul (*Medical News,* March 26, 1904) summarizes the important signs of adherent chronic pericarditis as follows: (1) A systolic retraction in the region of the apex. (2) The sign described by Broadbent, which is a distinct systolic retraction

of the chest wall in the region of the eleventh and twelfth ribs on the left side. (3) Friedreich's sign, a collapse of the cervical veins during diastole, and according to Kussmaul, a swelling of the cervical veins during inspiration. (4) The pulsus paradoxus is significant of adherent pericarditis, or rather of the dilatation which follows. The pulse becomes small and feeble during inspiration, due to traction on the adhesions during the inspiratory expansion of the lungs. As these bands are drawn upon it causes a constriction of the vessels of the mediastinum, thus resulting in a small, feeble pulse wave during inspiration.

The Warm Bath as an Adjunct in the Palpation of the Abdomen.

Sticker (*Centralblatt f. innere Med.,* No. 9, 1904) finds that ordinarily it is sufficient to raise the shoulders and the knees in order to successfully palpate the abdomen. There are certain cases, however, in which chloroform anesthesia is sometimes employed. Rather than use the anesthesia the author prefers placing the patient in a warm bath, which permits him with but very few exceptions to palpate the different abdominal organs and to demonstrate almost all their pathological conditions.

New Stain for Diphtheria Bacilli.

Eduardo Andrade (*Medical News,* March 12, 1904) says the following method of staining gives excellent results: Prepare the films in the usual way: (1) Borrel's blue, five minutes; (2) wash in distilled water; (3) Lugol's iodine solution, one minute; (4) wash in distilled water; (5) decolorize in absolute alcohol until no more blue is given off; (6) wash in distilled water, dry, and mount. The smears should be thin and easily spread. The best results are obtained with cultures from eighteen to twenty-two hours old, grown at 37° C.

Elimination of Water by the Skin and Lungs.

Lang (*Archiv f. klin. Med.,* Bd. 79) finds that under normal conditions the organism with an increase of the surrounding temperature increases the elimination of water by evaporation, especially through the skin. In fevers a slight increase in the elimination of water through the lungs takes place, whilst the

function of the skin in that respect is not increased. This insufficiency of the eliminative power of the skin in fevers is suggestive in the different febrile diseases.

Arsenic Tolerance.

Hausmann (*Deutsche med. Woch.,* No. 52) finds that the arsenic eaters in the valleys of Steyermark are very seldom able to take more than the maximum dose of the drug. He also demonstrated in animals that a certain tolerance is acquired, but that the individual disposition plays an important rôle. The condition resulting from abstinence from the drug he explains as the returning to the original sickly condition of the patient, to relieve which the drug was first taken.

THERAPEUTICS.

The Treatment of Gall-stones.

The treatment of gall-stones, according to W. E. Dignen (*Buffalo Medical Journal,* April, 1904), will depend greatly upon the presence or absence of complications—that is, whether the object desired is simply to remove gall-stones that may be present, and thus do away with the symptoms that are caused by their presence, or whether the disease is complicated by cholecystitis and cholangitis, and it is desired to cure or relieve these conditions. In the former, the regular form of gall-stone disease, dietetic measures, the drinking of certain waters, and treatment with drugs must be chiefly considered. In rare cases only will it be necessary to consider the advisability of surgical measures from the beginning. The most suitable diet seems to be a mixed one, containing plenty of proteids not too scanty or uniform, so that an abundant quantity of bile acid is produced, and so that the flow of bile may be stimulated and maintained. It is a good plan to advise frequent meals only three hours apart, during the course of the day. Plenty of pure water should be ingested.

As gall-stones are soluble in alkaline fluids, alkalies were recommended for the treatment of gall-stones even as early as the eighteenth century. They are employed mainly in the form of different mineral waters. Warm saline waters have also been recommended for this purpose. The administration of fats, particularly of certain oils, has been highly recommended; their value is still uncertain. Turpentine and chloroform have their

advocates. The duty of the physician is first to alleviate the suffering, then to attempt to cut short the attack by promoting the passage of the stone, and finally to prevent complications. For pain, morphine, belladonna, antipyrin, phenacetine, and preparations of the salicylates are of value. Inhalation of chloroform should be administered only in cases of exceptional excitement. Heat and cold may give relief. The bowels should be freely opened. If these means do not afford relief, surgical interference should be advised. Operative procedures should at once be advised, if signs of suppurative cholangitis, of cholecystitis, or of incipient peritonitis appear.

The Serum Therapy of Plague.

D. Duprat (*British Medical Journal,* March 5, 1904) reports the results of the treatment of forty-five cases of plague with the Roux-Yersin serum. At the commencement of the epidemic the doses employed were from 60 to 80 cubic centimeters, repeated or not, every twenty-four hours, according to circumstances. Sixteen cases were treated in this manner with a mortality of 31.25 per cent. Subsequently this dosage was largely increased up to an initial dose of 300 cubic centimeters in one case. The results thus obtained were much better than those obtained with the smaller dosage, and the mortality fell to 13 per cent. A number of cases are related, of which the following may be taken as an example: A child aged ten years when first seen had a temperature of 39.8° C., pulse 130 and compressible, rapid respiration, and marked collapse. He could with difficulty be got to answer questions, and had a very painful bubo in the left inguinal region. He received a first injection of 100 cubic centimeters, followed twelve hours later by 120 cubic centimeters, then at the same interval 80 cubic centimeters, and twenty-four hours later 60 cubic centimeters. Recovery took place, complicated by general articular pain—a frequent effect of the serum injection. The injections were all subcutaneous, and Duprat comments on the difficulties of Calmette's method of intravenous injection.

The Abortive Treatment of Gonorrhea in the Male.

Frederic Bierh (*Boston Medical and Surgical Journal,* March, 1904) says the abortive treatment of gonorrhea is possible if it be employed early; the percentage of cases in which a positive result may be obtained is fairly large; when one employs only

those drugs which while they kill the gonococci do not injure the mucous membrane, the percentage of complications will be smaller than has heretofore been supposed; and should the attempt to abort the disease fail, the patient will not have been injured.

Colloidal Silver in Syphilis.

A. Dabrus (*Jour. des Mal. Cut. et Syph.,* November, 1903) has tried colloidal silver in two cases of late secondary syphilis, both as a one-per-cent intravenous injection and as a five-per-cent ointment. The injections were made daily for six days, starting with 0.03 and increased to 0.05 centigramme. After this inunction was done for six days. The results were disappointing and inferior to those obtained by the usual mercurial treatment.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

The Urine in Pregnancy.

W. Wilson (*British Medical Journal,* March 19, 1904) discusses from experience the significance of the analysis of the urine of pregnancy with especial reference as a warning of impending eclampsia. As a general rule normal urinary findings are indicative of normal conditions in pregnancy, but abnormalities may exist in the specific gravity, urea excretion, and in the presence of albumin and glucose which are followed by normal labor. Of a considerable number of urine analyses during pregnancy only a small percentage showed entire freedom from albumin and glucose, but in no instance, provided there was no serious renal change, did the urine fail to return to normal after labor, except in a few cases where fatal eclampsia occurred. Small traces of albumin may be due to pressure by the gravid uterus causing renal congestion, but careful microscopic examination for granular and epithelial casts affords the only reliable guide as to the state of the kidneys themselves. The presence of glucose in small quantities is in itself of little moment as regards the outcome of the pregnancy, but when it represents a diabetic condition it is of grave import.

After advocating the periodical examination of the urine in

all cases of pregnancy, and with greater frequency as term is approached, the author points out that the most dependable indications of impaired renal function and possible eclampsia are the presence of decided quantities of serum-albumin, the diminution in urea excretion, and the presence of casts, etc. In young women even with normal urine the possibility of eclampsia must be borne in mind, and should it arise it may be equal in severity to those cases in which morbid conditions of the urine have given warning of its occurrence. Though not an unfailing guide, urine analysis affords the most trustworthy warning of danger that we possess, and in the event of eclampsia arising venesection and normal saline transfusion are the most reliable remedies.

Central Rupture of the Perineum by the Elbow in a Breech Presentation.

R. Azvanger (*Wien. med. Presse,* Jan. 31, 1904) reports a rare case of central perineal rupture. He was called to a healthy primipara aged twenty-two, when the breech, which was in the second position, had already engaged in the pelvis. When such progress had been made that the breech could just be seen between the labia a strong pain occurred, and the half breech was born. On gently raising the breech a conical mass the size of a pigeon's egg was seen to protrude between the posterior commissure and the anus. It was the left elbow. Before the advent of the next pain it was replaced in the vagina and delivered without rupture of the bridge of perineum, measuring about two-fifths inch, which remained behind the vagina. The rupture became complete when the head was delivered. At the moment when the strongest pain occurred the left arm of the child was doubtless in the direct line of pressure.

The Best Time for Repairs of Lacerations of the Cervix.

This question is discussed by R. L. Dickinson (*New York Medical Journal,* March 26, 1904). He says his present practice is to (*a*) suture cervical injuries at the close of labor when they seem to be the cause of postpartum hemorrhage; (*b*) to sew up all the cervical tears in the first week in conjunction with the perineal operation when the pelvic floor injury is of such a character that a few days' delay is desirable; and (*c*) to restore severe injuries to the cervix from the third to the tenth day after delivery.

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ORIGINAL CONTRIBUTIONS.

MEMBRANOUS CROUP, WITH REPORT OF CASES.*

BY J. T. HERRON, M.D., JACKSON, TENN.

Membranous croup or croupous laryngitis is said by Shurly to be identical with laryngeal diphtheria, inasmuch as about eighty or ninety per cent of the cases show the presence of the Klebs-Loeffler bacillus in the exudate. Sir Morell Mackenzie believed the two to be identical. Both diseases affect the mucous membrane, and a false membrane is produced. The larynx is attacked in both affections. Respiration is interfered with by both. Membranous croup primarily affects the larynx, while diphtheria generally commences in the pharynx, although it may involve the larynx. Northrup cites 151 cases of diphtheria, in only one of which was the disease limited to the larynx, while 88 involved the pharynx and larynx at the same time. Bishop, in whose opinion I have great confidence, says that he is not prepared to admit their identity. He believed that the wide difference between the unicists and dualists can be harmonized by recognizing what is true pathologically and clinically, that there exist two kinds of membranous croup—one diphtheritic, the other non-diphtheritic.

The *Medical Record* of September 15, 1894, mentions 286 cases of membranous croup; 80 per cent were diphtheritic, and 14 per cent were not. It seems to me, in summing up the opinions of various authors, that the true diagnosis, or rather the differential diagnosis between membranous croup and true diphtheria, is the difference in their severity, the toxemic condition of the one over the other.

Membranous croup has for its bacillus the streptococcus longus, streptococcus pyogenes, and the staphylococcus; while true diphtheria, on the other hand, has the Klebs-Loeffler bacillus.

*Read before the Tennessee State Medical Association, April 13, 1904.

The latter bacillus is one of great vitality, and after lying dormant for years may be conveyed. Cases are recorded in which infection occurred from clothing, etc., as long as twenty years. Bishop claims that membranous croup is neither infectious nor contagious. You will notice that in most of my cases there were two affected in each family. I do not believe for a moment that one of this number had true diphtheria.

Case 1.—Early in October I was called to see S. C——, aged four years, son of Dr. Jere L. Crook. He had been quite well until late in the afternoon on the previous day. His symptoms, when first taken and during the night, were those of an ordinary attack of croup. He was actively treated from the beginning with little benefit. At 8 A.M. I made an examination of his larynx; I failed to get a good view, but in attempting to do so I held the mirror firmly against the fauces until he gagged two or three times, and as he did so several pieces of the exudate came up and fell on the mirror. A positive diagnosis of membranous croup was made. Making the diagnosis this way was entirely new and incidental, and I think unique. I was trying to see the larynx. I am convinced the diagnosis that morning would have been in doubt had not pieces of newly formed membrane fallen upon my mirror. I have placed some stress on the above because it has been of so much value since that time in making the diagnosis of nearly all my cases. This method may be old to many or all of you—if so, nothing is gained; if not, then my advice is to do all you can to make an undoubted diagnosis as soon as possible. If you cannot make a laryngoscopic examination, get some one to do so, if it is so that you can without too much loss of time. Two thousand units of antitoxin was given at once; small doses of calomel were given; also local treatment with spray. On my return that night he had vomited up particles of membrane. Temperature 101°, doubtless from the antitoxin. On examining the larynx the membrane could be plainly seen. Two thousand more units of antitoxin was given.

A restful and quiet night was spent. Next morning I found him much improved. His recovery was rapid.

Case 2.—In less than a week Jere L——, Jr., aged sixteen months, a brother, took croup. His symptoms were not so clear as those of Case 1. I could not make an examination with the laryngoscope. He was removed from the room, and not permitted to come in contact with Case 1 as soon as the diagnosis was made. We gave him 1000 units of antitoxin, and repeated the dose in less time than twenty-four hours. In the morning

of the second day small pieces of membrane were found in his stool. Much doubt existed as to the diagnosis at first; yet it proved to be membranous croup. The patient made a good recovery.

Case 3.—October 21 I was called in consultation by Dr. H—— to see J. B——, aged seven years, to make an examination of his larynx. He had been croupy for several days, and grew worse regardless of treatment. I found him breathing with great difficulty, which could be heard some distance from the room. He had that anxious expression which is always indicative of great danger. Pulse 120; no fever. The membrane could be easily seen, as it had come out of the larynx, and almost covered the epiglottis. I gave him at 6 P.M. 3000 units of antitoxin. At twelve o'clock that night his breathing seemed slightly easier. I repeated the same amount, 3000 units. At ten o'clock next morning, with the laryngoscope I found the red line had formed around the exudate on the epiglottis. All the symptoms were better. I gave him 2000 units of antitoxin. At four o'clock that afternoon his breathing was better. He stated to his mother, before going to sleep, that he felt something moving in his throat, and asked her if she could not hear it. We gave him 2000 units of antitoxin. That night at ten o'clock we gave him 1000 units, making 11,000 units of antitoxin in thirty hours. The morning of the 23d he was much better. That morning, it seems to me, he passed the entire membrane from his bowel. After a few days he had a slight fever; pain in his joints; rash on the skin, as a few of the serum therapy patients have. However, with that exception his recovery was everything that one could wish. It may have been after seeing the red zone around the exudate I could have safely stopped the antitoxin at 8000 units. I recognized the gravity of this case, however, and gave it without any fear of bad after-results.

Case 4.—November 9 I was called to see Mattie L——, second child, aged three years, with Dr. H——. She had been removed and was not allowed to come in contact with her brother since the diagnosis was made. She had had croup about twenty-four hours, and the symptoms were those of membranous croup. I could not examine the larnyx. We gave 2000 units of antitoxin at 8 P.M. On my return visit the next morning we repeated the dose, 2000 units. Her recovery was good. I immunized the baby, aged one year, with 750 units of antitoxin. This was done when I made my first visit to see the little girl.

Case 5.—I was called December 4 in consultation with Dr.

H—— to see H. C——, aged seven years. This boy had just recovered from an attack of measles. The case was doubtful, and I believe it would have been almost impossible without the aid of the laryngoscope to have made a diagnosis. I saw the membrane in the larynx. I gagged him, and a deposit of exudation fell upon the mirror. This I showed to the family, as they opposed antitoxin. We gave at 8 P.M. 3000 units of antitoxin. The next morning his symptoms were better. At this time we gave 2000 units with success.

Case 6.—December 12, just one week after the boy's illness, I was called to see his sister, Mary C——, aged five years. She was removed from his room when I was first called to see him. She had measles at that time, followed by pneumonia, and before her recovery she took membranous croup. She was critically ill for several days. I could not examine her larynx, but got a deposit of exudation on the mirror. We gave 2000 units of antitoxin that night, and repeated the dose the next morning. Her recovery was slow. I do not see how she could have recovered had it not been for the early dose of antitoxin.

Case 7.—December 10 I was called in consultation with Dr. H—— to see Bessie M——, aged six years, to examine her larynx. She had measles followed by croup. I found a well formed membrane encroaching upon the epiglottis. We gave her at once, which was ten o'clock at night, 3000 units of antitoxin. The next morning her breathing was better. We gave 2000 units more with good results.

Case 8.—February 15, 1904, I was called in consultation with Dr. M——, twelve miles from town, to examine the larynx of J. L——, aged seven years, and to ascertain if he had membranous croup, as many of the symptoms pointed to it. I arrived there at 7 A.M. After repeated efforts I failed to see his larynx, owing to sick stomach which he had during the night. In the examination I secured pieces of exudation on my mirror. I gave 3000 units of antitoxin; six hours from that time I found him breathing much better. I gave him 2000 more units. He made a good recovery. I immunized two smaller children, aged five and three years. The one, five years of age, had been a little croupy for twenty-four hours. I gave her 2000 units of antitoxin, the other 1000.

Case 9.—I was called February 20 in consultation with Dr. C—— to see R. P——, aged two years. He had recovered from measles and took catarrhal pneumonia, and it was thought that he would recover. The night before I was called he took mem-

branous croup. When I arrived I found him in a moribund state, with no hope for recovery. I gave him 2000 units of antitoxin without benefit. He died nine hours after the antitoxin was given. He was in such a condition that it was impossible to intubate.

Statistics show that membranous croup, before the use of antitoxin, was a very fatal disease; considerably more than one-half of the cases died, 60 or 70 per cent. Since O'Dwyer introduced intubation of the larynx the death-rate has greatly improved.

Ranke reported 1445 cases intubated in Germany for croup, with 553 recoveries, or 38 per cent. O'Dwyer claimed, in 1894, that the mortality of laryngeal diphtheria without treatment is 90 per cent, which can be reduced to from 27 to 47 per cent.

The average mortality from diphtheria in 1902 where antitoxin was used was 6.48 per cent; the average mortality from diphtheria in the same year where antitoxin was not used was 32.5 per cent. The death-rate has therefore been reduced more than three-fourths by the use of antitoxin.

In twenty-five of the largest cities in the United States, aggregating a population of 11,362,060, this means that antitoxin has reduced the mortality of diphtheria over 75 per cent; in other words, more than seventy-five out of every hundred recovering from diphtheria owe their lives to the use of antitoxin. The average mortality from diphtheria where antitoxin was used upon the first day was 1.45 per cent; second day, 3.9 per cent; third day, 5.67 per cent; fourth day, 14.49 per cent.

Rosa Engelmann, of the Chicago Health Department, in detailing the results of her experience with antitoxin, says 7 deaths in 103, or 6.97 per cent, is a very low death-rate, especially if one considers that 50 of the 103 cases were membranous croup. I could call your attention to thousands of cases recorded, but it seems useless to me.

I commenced this paper to add a very few cases to that enormous list that have been saved by antitoxin. I firmly believe if antitoxin had not been used two-thirds or three-fourths of my cases would have been with the angels. Now, gentlemen, it is in our power to lower this death-rate. We cannot do it if we depend upon local treatment. This is necessary, as well as to open the secretions; but that is nothing as compared to the serum therapy treatment.

Give antitoxin, and give it early and in large doses. Do not wait. To-morrow may be too late.

To sum it up, then, we are expected to do three things, if necessary, in every case of membranous croup: First, give antitoxin; secondly, intubate; and thirdly, perform a tracheotomy. If we give antitoxin and give it early, in large doses, we will have very little need for intubation or tracheotomy.

What shall we do if we find several children sleeping in the room with a membranous croup case? My future plan shall be to remove them at once, and give each one under seven years an immunizing dose of antitoxin.

If we as physicians had as much zeal and determination to blot out the microbe as Klebs, Loeffler, Roux, Welch, Prudden, and others in discovering it, some day a monument would be erected to our memory by the victors of this much-dreaded disease. We can do it if we will.

If I fail to impress upon this section the importance of prompt administration of the remedy, and in full doses, to the point of toleration, a positive diagnosis having been made by the laryngoscope, I shall miss the main point which I intended to convey to you in this paper. An examination of the larynx, except in the very young, is not difficult, and can be easily acquired—that is, a fair working knowledge—by a little practice with the laryngoscope, by the physician who makes no pretension to specialism. The laryngoscope will show the deposition of the exudate early in the disease, thus establishing beyond question the diagnosis.

A reference to the above statistical table I have just read you will show that an immediate resort to antitoxin saves the life that would probably have been lost while temporizing and waiting. By your indulgence I shall refer briefly to a case which did not occur in my practice, but in that of a friend.

This child was strong in health previously. The true nature of the disease was not determined until the fourth day, when antitoxin was administered, but as death was at that time imminent the remedy was unavailing.

If by reporting these cases I am influential in causing a more extended use of antitoxin by the profession generally, I shall feel that I have not only been useful to you, but, what is more to be desired, that I have been instrumental in alleviating human suffering, and saving the lives of our children from this most formidable disease. My strenuous advocacy of this remedy is based not alone on the use of it in my hands, but the cases in which it is not used which result fatally, after much suffering, appeal to me, and cause me to try to do what I can to induce others to use it.

THE DIAGNOSIS AND TREATMENT OF MALPRESENTATIONS.*

BY FRANK L. ROSE, M.D., CHICAGO.

For the detemination of the position and presentation of the human fetus at term, whether such position and presentation be normal or abnormal, two methods of examination are available, namely, the external or abdominal and the internal or vaginal. While the method by external manipulation is by no means new, it has been much more thoroughly taught and insisted upon in the last few years than formerly, with the result that recent graduates in medicine are much more likely to use it than are those of us who graduated fifteen or more years ago. In fact it is doubtful if a large proportion of practitioners in this country to-day do not ignore it altogether and depend wholly upon what the vaginal touch can teach them. From my own experience, which includes a number of years in which I never practiced the method at all, and seven or eight years in which I have used it with more or less thoroughness, I cannot speak too highly of it as an aid, especially in all doubtful cases, and believe it should be systematically practiced in every case where time permits, as such practice adds materially to one's skill in obstetric diagnosis.

On the other hand, there can be no doubt that many a recent graduate, thoroughly (and properly) impressed through his entire course with the importance of asepsis, dreads making the vaginal examination through fear of infecting his patient, and possibly either makes it not at all or imperfectly. In the light of the brilliant and beneficent results achieved through the observance of asepsis and antisepsis in the field of obstetrics as well as in surgery, it requires some boldness to declaim against its rigorous rules, and yet if the effect is to render young practitioners timid in emergencies, it is certainly time to raise a protest. The man who neglects to make or dare not make the vaginal examination in a case of labor is liable to make grave mistakes. It is impossible to see how he could diagnosticate prolapsus funis, for example, at least until too late for his diagnosis to avail.

The External Examination.—The patient lies on the bed with her skirts removed or slipped down, and is covered with a clean sheet, and the abdomen may remain covered by the undershirt if thought best. Inspection alone is almost sufficient to show whether the child lies longitudinally or transversely. Fac-

*Read at the meeting of the Southwestern Branch of the Cook County Medical Society, April 5, 1904.

ing the woman's head the accoucheur lays the edge of one hand on her abdomen and makes deep but gradual pressure, palpating with the other hand. It will thus be possible to feel the fetus on one side of the median line, the bag of waters being displaced to the other. We now search for the child's head, looking for it first in the lower abdomen or in the pelvis. Turning to face the woman's feet we make firm and even pressure with the palms of both hands above the symphysis pubis, pressing the fingers down into the pelvis. The resisting body that we feel may be either the head or the breech, but by passing the fingers of each hand transversely across it and then drawing them slowly toward the other extremity of the child we shall detect the globular form of the head, with the depression above corresponding to the neck. Repeat this at the upper extremity of the uterus, and if the maneuver is carefully made one ought to be able to say from his external examination alone whether the head or the breech presents. In fact this is often more easily determined by the external examination than by the internal—at least in the early stages of labor. Two conditions render this examination less valuable and decisive, viz., an excessively fat abdomen and an excess of liquor amnii.

We also wish to determine whether the position is an anterior or a posterior one. If anterior the child's back lies in apposition with the abdominal wall of the mother in front, and this of course whether the presentation be head or breech. The smooth, unbroken convexity of the child's back can thus be felt from the head to the sacrum, while in a posterior position this is absent, and in its place we feel a very irregular outline, for we are palpating the knees and elbows of the child. In a case of occipito-posterior position occurring in my own practice only yesterday morning this point enabled me to make my diagnosis positively, and much earlier than it could be determined by palpating the fontanels.

Finally we perform auscultation to determine the condition of the child, and I here vastly prefer the ear to the stethoscope. Any marked variation from the normal fetal heart-beat should put us on our guard, and especially is a very slow rate (of 100 or less) suggestive of prolapsed cord. This I have demonstrated in my own experience, and I may here state that this entire paper is written directly out of such experience.

The external examination then will show:

1. Whether the patient is pregnant or not.
2. Whether labor has begun or not.
3. The presentation, whether longitudinal or transverse.

4. If longitudinal, whether the head or the breech presents.

5. The position of the child, whether anterior (back to mother's front) or posterior, and this in any presentation, longitudinal or transverse.

6. The condition of the child.

The Vaginal Examination.—The vulva is thoroughly cleaned with soap and water, but no douche is given unless gonorrhea is suspected. The accoucheur scrubs his hands five minutes in soap and lysol solution and rinses in one per cent of the latter, and the hand should not touch sheet or patient until its introduction. This examination should (1) corroborate or contradict conclusions arrived at from the external examination; (2) reveal conditions if such exist which cannot be discovered by the external method—*e.g.,* prolapsed cord and placenta previa (also face and brow).

The two methods should supplement each other. It would seem an easy matter to make a correct diagnosis of a breech presentation by vaginal touch alone, and yet mistakes occur constantly. While it is, I believe, not of extreme importance which pole presents first provided the accoucheur is present when the birth occurs, it is at least embarrassing after having assured the family that the head was presenting to have the breech appear in mockery of our diagnostic skill.

In occipitoposterior positions, too, the diagnosis is much more slowly arrived at by the vaginal method, as we must depend on palpating the fontanels, and in this case finding the large fontanel anterior. This cannot be done till the cervix is fully dilated and membranes ruptured.

Treatment of Malpresentations.—Under this head I have thought it would be more interesting to present histories of cases from actual practice, and have therefore prepared a table of abnormal presentations occurring in the last 200 consecutive labors in my own practice. In limiting remarks on treatment to this list it will be seen that the discussion of transverse presentations as well as of face and brow is excluded, as no such case occurred in this series.

MALPRESENTATIONS AND MALPOSITIONS IN 200 CONSECUTIVE CASES IN PRIVATE PRACTICE.

	No. of cases.	Fetal deaths.	Maternal deaths.
Placenta previa	2	1	0
Prolapse of cord	3	2	0
Breech	9	0	0
Occiput posterior (face-to-pubis delivery)	3	0	0
Totals	17	3	0

Of course only children living at time of the onset of labor and dead when delivered are counted in fetal mortality. There were eight children so living among these breech cases, and of these all were saved except the one where the cord prolapsing complicated, and as this was counted among fatalities due to prolapsus funis it was not counted again.

The three cases of prolapsed cord could be further classified as simple prolapse, cord with breech, cord with arm. The non-fatal case was the last named, which was safely delivered by the prompt application of forceps, and continuous traction for a very short time without anesthesia. There was neither opportunity nor time to sterilize the instruments, as the beats were already becoming irregular on my first examination (this was a midwife case), and time was of the utmost value if the life of the child was to be preserved.

To briefly review the cases in detail I will begin with placenta previa. Both cases were of marginal attachment.

In *Case 1*, to which I was called by a midwife, I found that terrific hemorrhages had already occurred; the pains were moderate, with dilatation of only one inch. In this case I tamponed the vagina with gauze. The hemorrhage was completely controlled, pains came on vigorously, and about four hours later the tampon was removed, turning performed, and the child delivered by the feet. This child was dead.

Case 2.—Here the hemorrhage was moderate, the pains good; and when the cervix was fairly well open the hand was passed inside the uterus, both feet brought down, and the labor completed.

Criticism.—Turning was unnecessary in either of these cases, as simple rupture of the membranes after fairly good dilatation would have been enough. The tampon was indicated however, I believe, and had it been applied earlier before the hemorrhages had become so severe would have saved the child as well. In a similar case I should certainly use it again.

Prolapse of Cord.—This has so far almost invariably been fatal to the child in my experience. In this list the only exception is described above. In Case 1, a primipara, the membranes had ruptured some hours before I was called, and though some pains were present on my first visit early in the evening no dilatation had occurred, and therefore I did not feel the cord. The next morning also the cervix would not admit the finger, but there was quite a marked slowing of the fetal heart-beat, the significance of which I did not then appreciate. A few

hours later on visiting the patient again the cervix was found dilated to the size of a silver quarter, a loop of the cord down in the vagina, and all pulsation absent. This was a difficult case to have done anything for under the circumstances, and though I have studied over it a good deal since I fail to see how anything could have been done unless one had diagnosed a *probable* prolapse from the slow fetal heart-beat and prescribed the knee-chest position.

Case 2 (cord with breech) was a primipara. I had barely time to reach the bed before the breech appeared at the vulva with a loop of cord projecting below it. This case progressed well for a few pains, when just as the beats began to grow feeble all pains stopped, nor did they recur again for five minutes. Pulsation stopped a moment after the pains, and though I made all efforts to deliver the breech or reach a foot my efforts were fruitless, and the child could not be resuscitated. My only criticism of this case is that a foot or knee should have been reached at all hazards; in other words, more boldness should have been exercised.

Case 3 has already been described.

Breech Presentations.—The proportion here seems rather large, but about averages with my preceding cases. I have lost but one uncomplicated breech (and but two in all, the case above described being one), a case in which the second twin presented breech and time was lost delivering the head. Forceps were tried in that case to the after-coming head, but I will never try them again. I have nothing new to suggest on treatment except this, which I have not seen in my text-books, namely, that if delay occurs while the shoulders are still transverse they should be rotated so as to bring one to the perineum, when by rotating the child over the mother's abdomen the shoulder will readily slip out or can be reached. This can be repeated if necessary for the other shoulder, and is a valuable procedure, especially so in cases where the arms are extended over the child's head.

Occiput Posterior (Face-to-pubis Delivery).—Persistent occipitoposterior positions will in primiparæ almost invariably require forceps and perineal repair, but in multiparæ need not. Of the three cases in this list one required them (a primipara), while two did not, both being women who had borne several children. It is my practice to delay their application if possible until the backward rotation is complete, at which time the forceps applied to the sides of the mother's pelvis also of course

grasp the sides of the child's head. I have never applied them in these cases while the head was still oblique, but it is certainly a serious task. A brief demonstration with the pelvis and fetal skull will show you how difficult descent is in these cases, and why; also how much easier it is rendered by complete flexion of the head. In fact where flexion is good the shape of the pelvis and the resistance offered by the sacroiliac ligaments are sufficient to rotate the occiput forward in the line of least resistance. But as flexion is imperfect in these cases owing to the resistance encountered by the sinciput being so much less than that encountered by the occiput, it becomes easier for the occiput to rotate backward into the concavity of the sacrum. Even after this is done, however, flexion artificially applied by the fingers of the attendant aids powerfully in hastening descent.

In these cases then a diagnosis should be made by external manipulation unless conditions previously mentioned render this impossible. Then pressure should be applied to the sinciput with every pain until rotation forward occurs. If backward rotation occurs the pressure should still be kept up. Forceps should be delayed if possible until backward rotation has occurred in spite of our efforts. Extraction is then not specially difficult, and the prospects for delivering a living child are excellent.

THERAPY OF SODIUM CHLORIDE.

BY J. S. NOWLIN, M.D., SHELBYVILLE, TENN.

It was my original intention to write a more extended history of the many uses to which this salt has been applied as a therapeutic agent; but recent sickness, together with the loss of memoranda by fire in my office, precludes the fulfilment of this desirable purpose at this time.

Chloride of sodium is one of the important constituents of the blood and is in double the proportion of any other inorganic salt. It maintains the alkalinity of the circulating fluid and the tissues as well. The power of endosmosis and exomosis is enhanced by its presence, which we will notice later as an important factor. When taken into the stomach it aids digestion by the formation of sodium lactate, setting free the hydrochloric acid and favoring the formation of pepsin.

Senn says that "normal salt solution is antiseptic and is extensively used in cleansing recent wounds; that it is far better than sterile water, because it does not irritate the tissue or interfere with rapid repair."

He also claims, as I think very correctly, that death from hemorrhage results in consequence of loss in power of intravascular and intracardiac pressure, incompatible with the proper function of the circulating organs. He further claims that the circulation can be maintained in its intravascular tension to the required degree by substituting for the blood lost an equivalent quantity of normal saline solution.

I have no doubt the clinical experience of the members of this society will sustain this opinion. I am sure it accords with my own observation. I want to say, however, that I do not believe it is necessary to use an equivalent quantity of the solution. The salt, when in a normal proportion to the aqueous fluid, has within it a dynamic force which at once awakens the latent or paralyzed forces of the intima in the whole vascular system, from the heart to the capillaries.

The strength and temperature are matters of importance. It is safely placed at a 6/10 of one-per-cent solution of chemically pure sodium chloride. This is approximately made with one teaspoonful of the salt to a pint of water at a temperature of 120°. The temperature can be safely approximated by immersing the whole hand in water as warm as it will comfortably bear. I have never used it intravenously, not having found it necessary, neither is it so safe as when introduced hypodermically or per rectum. The rapid transit of this fluid through the whole system is an all-important desideratum. It is fortunate that this potent therapeutic agent has the endosmotic and exosmotic power within itself. There will possibly be some surprise and disbelief when I say that the rectum is the quickest route by which to reach the ebbing life when blood has been or is being rapidly lost.

There are two reasons for this: first, the rectal mucosa is the most favorable surface for absorption found in the alimentary canal; secondly, it is the only place where the agent introduced passes into the system without a greater or a less degree of change. A saline solution holds the blood-corpuscles in form without breaking down. It invites the fluid directly from the tissues in resupplying the quantity. This fluid thus drawn from the tissues of the body has a ready vitality within it, not inherent in any fluid made by hand of man or in a chemical laboratory. It is better, therefore, that it should be placed where it will at once stimulate the endosmosis and exosmosis, which are so rapidly and constantly at work in the process of metabolism.

Herein is its dynamic power, and this must not be neutralized

by an excessive quantity. I mention one other reason for using this medicine per rectum. It is this: any trituration about the rectum or pressure upon the sphincter muscle, or distention of the walls of the rectum from the anus to the sigmoid flexure, is a stimulant to the respiratory and cardiac nerves, as also to the whole trophic nervous system. This can be demonstrated by dilating the anus of the still-born babe. It is also efficient in excessive narcosis from chloroform. Thus far we have noticed the effect of salt in such conditions as when life is in imminent danger from loss of blood. I am convinced that in the near future it will find a broader field of usefulness. There is no question in my mind that it is a strong antiseptic. It was long since used and believed to be beneficial in tuberculosis. It was used quite extensively and for a time with favor. It was given by the mouth, and also applied by bath; bathing in sea water was evidently attended with benefit, and it was of more benefit when taken by the bath than when taken by the stomach. This was doubtless true.

I am sure from some experience in that direction that salt taken into the stomach does not reach the diseased tissues as sodium chloride, but when absorbed from other directions there are not so great changes in its structure. It acts as a diuretic and diaphoretic. I herewith present some conclusions drawn from the effects of this solution given per rectum in a case which I saw with my friend Dr. G. W. Moody.

The patient was a primipara. From the seventh month she evinced an albuminuria to which he gave constant and intelligent attention. He regulated her diet and administered medicinal treatment recognized as the best in such cases. She was of short stature, quite round, and of considerable flesh. He controlled for the most part the swelling of the extremities. There was no disturbance of vision until the final ending of the pregnancy by delivery almost at term. For near two weeks during the last month there was no movement of the fetus, neither heart sound that he could find. At this time there was quite a reduction in quantity of albumin, though it never entirely ceased. On Friday she complained of dim vision. Saturday morning he delivered her of a still-born child, which had evidently been dead for several days. This was at 4 A.M. She was quite cheerful and bright and apparently doing well when he left her at 8 o'clock; about noon she told her nurse that she was blind; he saw her very soon and bled her freely; he saw no evidences of actual convulsions, though the blindness continued and she became delirious and

almost unconscious. He invited me to see her with him during the night. He had given her saline solution, morphine, veratrum, and active purgation. Kidneys acted very scantily; skin dry; patient very restless, and constantly talking incoherently. The treatment was continued, and I suggested that the salt solution be continued by giving half a pint of the solution at intervals of three or four hours per rectum. Dr. Moody agreed to this.

I had noticed in uterine hemorrhage when used to support the circulation that the skin and kidneys become more active. This I believed to be a desideratum in eclampsia, and that the failure in these directions of elimination, especially that of the kidney, was because the medicines introduced by the stomach never sufficiently reached the lower abdominal viscera from the mechanical pressure of the uterus and resultant congestion.

As I think, the portal circulation is obstructed in this way and that medicines by the rectum are absorbed and carried directly to the kidneys, the function is stimulated thereby.

This agent has been used by transfusion in uremia and found beneficial. There is good authority for saying that albuminuria in pregnancy is not the sole cause of eclampsia. It is taught that the phenomena called eclampsia may be caused by vitiated secretions *in utero*—for example, from urine of the fetus, or a toxic condition of the liquor amnii, diseased placenta, etc. I am of the opinion that salt solution is antiseptic in these conditions, and eliminative as well. That the eclampsia cannot be the result in all cases of uremic poisoning is proven by the fact that so many pregnant women pass albuminuous urine and go to term in safety.

This solution was continued for forty-eight hours. Perspiration became free and active, quantity of urine was increased; she was quite thirsty under its effects, and the circulation strong and full. The capillaries of the hands became so full that they seemed swollen. The enema was partially suspended at this time, though not entirely discontinued. Under this line of treatment the mind was gradually restored, and also vision, but not quite so rapidly.

I close this hastily written paper, which can only be suggestive, with the proposition that normal saline solution in addition to other therapeutic measures will be recognized as the natural physiological stimulant in the so-called failure of the heart. Strychnine is relied on and indiscriminately used for imaginary weak heart, oftentimes to the extent of paralyzing the cardiac action. The heart is muscular, and strychnine when given in

full doses exerts its power directly upon its contractility. It is often given when no fault is in this direction. The fault is in the stimulating forces of the blood, and this is inherent in its alkaline and absorptive forces, which can be strengthened by salt without detriment elsewhere. Let us not forget that while the nervous system is an adjuvant, the life is in the blood. We must not impose on the heart when the fault is a want of tension in the general vascular system. Intravascular pressure is wanted in many cases where the forces have been exhausted by disease, not the loss of blood. A safe and efficient remedy will be found in normal saline solution.

At the meeting of the Paris Academy of Medicine held on March 8 M. Lancereaux read a paper the facts of which had been communicated by Dr. Charlier, of Origny Sainte Benoite, upon the celebrated sleeping woman of Thenelles. Her history is well known. She was the child of an alcoholic father and a neurotic mother, being herself highly neurotic. When she was twenty-two years old she had a child, who died. At this time the gendarmes paid a domiciliary visit to her house under a warrant which really referred to her sister, who had also lately been confined. This so alarmed her that she immediately fell into a lethargy which lasted for twenty years, during which she remained insensible to all outside impressions and was only kept alive by rectal injections. Finally she became infected with tuberculosis, and early one morning she awoke, recovered her senses, and recognized people, though she had no knowledge of what had passed. At the end of a few days she died. There is nothing very remarkable about this case except the length of time during which the sleep lasted. It is an obvious case of hysteria, and M. Raymond, who succeeded to the charge of Charcot's wards at the Salpêtrière, informed the academy that every year he saw on an average at least a dozen similar cases which were brought in from the streets by the police. In his opinion there is no difficulty in waking up such patients. Their limbs should be forcibly moved, and the various methods of mechanotherapy should be employed so as gradually to excite their psychical centers, which are benumbed. They should, however, be isolated, for the less a hysterical woman sees that she is an object of interest the more quickly she gets well.—*Lancet.*

THE MEDICAL AGE.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

HEALTH AND ATHLETICS.

Now that the long winter has departed, thoughts and inclinations naturally revert to outdoor life with its wide range of amusements. The baseball season again summons its votaries to manifest a lively interest in the great American game, and it seems pertinent to ask whether a truly rational attitude is being assumed by the general public toward the great problems an interest in such matters is supposed to exemplify. The underlying question should be the relation of outdoor recreation to general health and well-being. There seems to be a unanimity of opinion that certain benefits are likely to accrue to a community from the encouragement of athletics. The physique of the youth of great towns, it is thought, needs encouragement in this direction. If this be so it might be well to ask if the promotion of a cult of athletics actually tends to bring this about. The encouragement now given athletics by journals, schoolmasters, and managers seems in many respects idiotic and brutal. When 30,000 people are gathered together by those who trade in gate-money, drink, and news, to witness a game in which betting forms a preponderant interest, is the cause of physical training being promoted or hindered? The "cult of the arena" has never been indicative of high moral or intellectual standards in a nation, more often it has been a symptom of decay, a precursor of an inevtitable decadence. The tendency to find satisfaction in looking at games played by hired performers seems like a method of taking exercise at second-hand and cannot possibly promote any healthy activity on the part of the organism which it might be presumed it was the prime object of the sport to supply.

There is considerable difference of opinion in regard to the

essential nature of physical exercise in maintaining individual welfare. A large number of distinguished individuals in England have recently been asked to express an opinion on the necessity of physical exercise. It seemed to be the opinion of most of them that walking is the best form of exercise. Golf, rowing, mountaineering, riding, fishing, and shooting, however all have their advocates. "Football in youth; walking in manhood; cycling in old age" is the recommendation of one distinguished politician. Athletics at school, says one educationalist, promotes "good temper and clear and steady thinking." "I find shooting, fishing, and golf sheer waste of time," says another, who thinks riding the only rational form of exercise. And so it goes, every one riding his own hobby.

It is not altogether unprofitable to compare our ideas with those of other nations. Germany, for instance, has never permitted outdoor pursuits to occupy any very large share of national attention, and the energy and progress of Germany might be quoted as an argument against athletics, especially when her national efficiency is somehow vaguely associated with a high degree of physical fitness. France is a nation which has recently attracted the attention of sociologists. Is her declining population attributable in any degree to her manifest lack of interest in athletic events? Japan has recently astonished the world by her mental and physical efficiency, but her athletic interests seem to be confined to a very simple method of physical development which can be pursued as well indoors as outside. Notwithstanding conflicting opinions, probably we shall some day settle down to a simple conviction that the benefits of fresh air and exercise are easily acquired and do not need any laborious strain to achieve their highest advantages. Simplicity of life both internally and externally seems to be most in harmony with natural method, to which anything cataclysmic and forceful is usually foreign.

EDITORIAL NOTES.

The Japanese Soldiers' Rations.

A writer in *London Truth* thus speaks of the soldiers' rations: "The other day I spoke of rice and dried fish being the uniform food of the Japanese army in campaigning times. This is the way in which the rice is cooked: It is boiled until it is quite thick and glutinous. Next it is placed on a ceramic slab, rolled

out, and cut into squares. The squares are then placed in the sun to dry and often turned. When hard as sea biscuits and greatly reduced in weight they can be stored. A certain number are allowed each day to the soldier. All he has to do is to break up a square in boiling water and to add the dried fish. In a few minutes he has what seems to him a delicious thick soup. If he cannot procure boiling water he simply eats his rice cake dry. In the fruit season he substitutes fruit when he can obtain it for the fish. The Japanese soldier, M. Pichon tells me, has muscles like whipcord, is a sure shot, has an eye for landmarks, and a memory for locality. He can do with three hours' sleep out of the twenty-four, is cleanly, attends to sanitary instructions, is ardently patriotic, holds his life cheap, and runs up hills like a goat. He costs the state about five cents a day and thinks himself well off."

A New and Powerful Poison.

A number of years ago a French chemist, Cadet, combined potassium acetate with white arsenic and produced a fuming liquid, oxide of cacodyl. This has recently been combined by an English chemist with cyanogen, a radical of prussic acid, which produces cyanide of cacodyl. Cyanide of cacodyl is a white powder, melting at 33° and boiling at 140°, which when exposed to air gives off a slight vapor, the inhalation of which is instant death. Thus has chemistry evolved a poison which is many times more poisonous than prussic acid. To what therapeutic use this deadly agent can be put is impossible to foretell, for few will be found with sufficient courage to experiment with it very much.

The Fear of Burial Alive.

There has been introduced in the Massachusetts legislature a bill which provides that certain means be employed to ascertain with certainty whether death is a reality before a burial permit is issued. This is an old story, the fear of being buried alive, and yet one that creeps out once in a while with some one who would enact laws for its prevention. Granting that an individual were in a state of trance when consigned to the coffin, he would soon asphyxiate himself with his own breath, and that without ever waking up or suffering in the least. The only legislation that is required on this subject is that the physician should personally inspect the remains before signing a certificate of death.

ITEMS AND NOTES.

LIMA, PERU, is suffering from the plague.

NEW YORK has abandoned the coroner's office.

AN epidemic of diphtheria exists in the village of Montgomery, Orange County, N. Y.

THE Portsmouth, N. B., Medical Association has celebrated the twenty-fifth anniversary of its organization.

A SOCIETY OF TROPICAL MEDICINE has recently been founded in Paris. The president is Professor Brouardel.

THE Northern Pacific Railroad Co. is soon to erect a new hospital in Tacoma, Washington, at a cost of $100,000.

THE American Neurological Association has fixed the time of its meeting at St. Louis for September 15, 16, and 17.

DR. J. H. VAN'T HOFF, the eminent chemist, has been made an honorary doctor of medicine by the University of Utrecht.

AT the leper settlement in Molokai, Hawaii, there has just been completed a home for blind leper women, the gift of Chas. R. Bishop.

THE West Virginia State Medical Association will hold its thirty-seventh annual meeting at Fairmount, W. Va., May 10, 11, and 12, 1904.

A DINNER was given to Professor Ehrlich at Delmonico's in New York on Monday evening, April 18, by the German Medical Society of the City of New York.

DR. M. P. RAVENEL, of the Henry Phipps Institute of Philadelphia, will shortly sail for Italy for the purpose of investigating, with Professor Maragliano, the question of specific therapy of tuberculosis.

According to newspaper reports, Dr. Samuel Darling, of the College of Physicians, and pathologist at the City Hospital in Baltimore, has isolated the germ which causes mumps.

The twenty-ninth annual meeting of the American Academy of Medicine will be held at the Shelburne, Atlantic City, beginning on Saturday, June 4, at 11 A.M., and continuing through Monday, the 6th.

The Associated Health Authorities and Sanitarians of Pennsylvania will convene at Gettysburg, Franklin county, May 26, and 27, 1904. This will constitute the Thirteenth Annual Sanitary Convention.

It was stated recently in the British House of Commons that during 1903, 1425 accidents resulting in personal injuries had been caused by covered vans in the streets of London, of which 29 had been fatal.

The experience of Chicago's Health Department in 7435 cases of diphtheria shows that the mortality when antitoxin is used is 6.5 per cent. The mortality without antitoxin is still about 35 per cent.

Dr. Chas. Baskerville, professor of chemistry in the University of North Carolina, has just announced his discovery that thorium, hitherto known as one of the primary elements, is complex in its nature. The Professor has resolved thorium into two new elements.

It is announced by a contemporary that the drug clerks in Chicago employed by the Wholesale Druggists' Association have demanded a five per cent increase in wages, which the employers have refused. This refusal, it is thought, may probably lead to a strike, in which 1000 clerks will be involved.

The question of medical practice in Spain by holders of foreign diplomas has recently formed the subject of animated debate in the Spanish senate. The discussion has so far led to no definite conclusion, but from the reports that have been published it may be gathered that a foreign doctor can at present practice his profession in Spain without the necessity of submitting to any further examination.

It is reported that Dr. Ludvig Hektoen, head of the Memorial Institute for Infectious Diseases, will go to Europe for the purpose of making extensive experiments on apes, in the hope of finding the scarlet fever germ. He will undertake the trip because of the difficulty and expense of bringing the animals to this country.

The bulletin of Chicago's Health Department for the week ending April 2 says: "Compared with the other large cities of the country, Chicago has come out remarkably well through the trying ordeal of a memorable winter. The 7675 deaths reported during the first three months of the year represent an annual death-rate of 15.77 per 1000 of population. For the corresponding quarter of 1903 the total deaths were 7856, and the annual death-rate was 17.10 per 1000, or nearly 8 per cent (17.7 per cent) higher."

An exchange says that Metchnikoff inoculated a chimpanzee with virus from a baboon. No secondary manifestations have appeared during the ninety days since. Further inoculation with human virus has proved equally negative. There is a possibility that the first inoculation from the baboon conferred immunity to the human virus. He is awaiting the arrival of a consignment of chimpanzees to repeat the experiments on a large scale. It will be remembered that Roux and Metchnikoff have devoted the large prizes bestowed on them last year to this research on anthropoid apes.

Two physicians of the Hamburg Institute for Tropical Diseases, Messrs. Otto and Neumann, have gone, according to an exchange, to South America for the purpose of studying yellow fever. They are supplied with considerable means furnished by shippers and merchants of Hamburg. In addition to scientific studies they are to collect information with reference to the new preventive measure now used in South America against yellow fever, and to devise means to prevent the heavy damages which the German merchant marine has suffered in the several years of yellow fever epidemic.

The Virginia legislature has recently passed a law, which goes into effect within sixty days, forbidding the sale of cocaine, and no one can buy it except physicians, dentists, and druggists. The present law on the subject is, according to the *Medical Rec-*

ord, not so stringent. It is said that cocaine addiction is a common vice among the street Arabs of Richomnd, and is encouraged by some conscienceless druggists, who sell the drug in any quantity to the boys and others without ascertaining the use to which it is put. It is hoped the penalties for violation of this new law will put a stop to this practice.

Boston Mortality.—According to the annual summary of deaths in Boston furnished by the Health Department, the rate for last year was 17.69 per thousand, which is a decrease of more than one death per thousand from the year before. Leaving out the infant mortality, which amounts to 28.96 per cent of the total, the principal cause of death is no longer pulmonary and laryngeal tuberculosis, but pneumonia. The decrease in the number of deaths due to tuberculosis is no doubt due to the sanitary precautions which Boston has observed in the last few years, by the prohibition of expectoration in the street-cars or public places.

A novel method is that adopted in Norway for turning a drunkard from the error of his ways. The patient is placed under lock and key, and is fed at frequent intervals on bread saturated with port wine. For the first day this is no doubt palatable fare; on the second it begins to pall, and fails to tempt the appetite; on the third day the prisoner turns from it with obvious distaste. But he must either eat or starve; and before the eighth day sets him free he has acquired such loathing for intoxicants that he more often than not spends the rest of his days as a rabid teetotaler. At least that is what is asserted, and the reader can believe as he likes about it.

The results of the four campaigns against malaria in the Campagna may be summarized as follows: In the first campaign in 1900 there were found 3751 cases, of which 27 were of the pernicious type; this is equivalent to 31 per cent of the population. In the campaign of 1901 the number of cases dealt with was 2366, of which 9 were pernicious; the proportion to population was 26 per cent. In the campaign of 1902 the number of cases was 2591, of which 9 were pernicious, but the proportion to population was only about 20.5 per cent. In the last campaign the total number of cases had fallen to 1547, of which 3 were pernicious. This gives a ratio of malaria cases to population in 1903 of about 11 per cent.

The directors of the Putiloff Engineering Works of St. Petersburg, the Krupps of Russia, are placing a sanitary infirmary train at the disposal of the field forces in connection with the war in the Far East. The cost of this train, says the *Nuvoe Vremya,* will be over 100,000 roubles ($50,000). It will consist of an engine, a tender, and ten wagons, and is at the present moment being rapidly got ready in the special model factory of the firm. The latest improvements have been introduced into the fittings of the wagons for removing the seriously wounded to the smallest detail, and everything in connection therewith answers to the latest requirements of science and the exactions of clinical practice and experience. For the medical staff, dispensary, kitchen, etc., special wagons are fitted, and all is arranged to yield the greatest comfort and practical use.

Medical circles in Germany are much inetrested at present in a certain Mme. Magdeleine G——, a Russian, who gives a most artistic dancing performance in a hypnotic sleep. The performance is a musicale, but after being hypnotized by her manager, Magnin of Paris, the sound of the music impels her to dance, while she falls into a cataleptic condition the moment the music ceases. Our current German exchanges contain a number of articles on the subject. Furer writes to the *Deutsche medicinische Wochenschrift* that the entertainment seems like a revival of the barbarous practice of exhibiting insane patients to the gaping public. Grunwald in a letter to the *Münchener med. Wochenschrift* takes much the same stand. He expresses the hope that the Munich Medical Society, which is the first scientific society before which the trance dancer has appeared, will insist on the pathologic character of the performance and protest against its being permitted as a public entertainment.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

The Surgery of Brain Tumors.

All measures recognized as prophylactic of shock should, says C. H. Frazier (*American Journal of the Medical Sciences,* February, 1904), be observed stringently. In these we have the most effectual means of reducing the mortality. The most important of them are (*a*) the avoidance of prolonged operation; (*b*) the prevention of excessive hemorrhage; and (*c*) the avoidance of unnecessarily rough manipulation of the brain-substance. A given area of brain can be exposed with the minimum degree of traumatism and greatest economy of time by the electric engine. Temporary closure of the carotids in operation upon the brain is ineffectual and not unattended by danger. It should be reserved for extreme cases, and practiced on one side only. Observations should be made upon the blood-pressure immediately before and at frequent intervals during the operation. Object of same twofold: (*a*) as the most reliable index of patient's condition; (*b*) as the only exact method of determining whether operation should or should not be carried out in two stages. Two-stage operation is indicated when there has been a decided fall in blood-pressure after the relief from intracranial tension, such as follows reflection of the Wagner flap and dura. Lumbar puncture as a means of relieving pressure is a temporary, not to say dangerous, procedure.

Bulging of the brain is one of the most embarrassing features of cerebral operations. A distinction may be made between that which occurs immediately after reflecting the dura, "initial" bulging, and that which follows as a result of subsequent exploratory manipulation, "consecutive" bulging. "Initial" bulging is due to the increased tension exerted by a tumor. It is not always present, is often excessive, and is not likely to be followed by "consecutive" bulging. "Consecutive" bulging is due to the cerebral edema set up in normal brain tissue by trauma inflicted by the exploratory manipulations. "Consecutive" bulging far exceeds in magnitude initial bulging, and suggests the absence of a tumor of considerable size at the seat of operation. In order to avoid this "consecutive" bulging, which is a most embarrassing

feature of these operations, exploration should be carried out in the most expeditious manner. When the edges of the dural wound cannot be approximated without undue tension or without great laceration of brain substance, the gap should be closed by a graft taken from the pericranium providing the tumor has not been found and there is reason to question the accuracy of the diagnosis. When there is every assurance of a tumor being present, but it proves to be inoperable or was imperfectly localized, no attempt should be made to close the dura, as in so doing the best possible palliative effects of the operation would be counteracted. Palliative operations should be regarded not merely as operations of propriety, but should be considered imperative whenever the tumor cannot be found or cannot be removed. A statistical study of the results of the last five years is encouraging. The mortality, both immediate and subsequent, has been reduced materially. Recurrence after operations for malignant growths of the brain is no greater than after operations for malignant growths of other structures.

The Clinical Diagnosis of Surgical Diseases of the Breast.

A. de Ronlet (*American Journal of Surgery and Gynecology*, April, 1904) says that in advanced cases of cancer a diagnosis is made without much difficulty, but in the early stages it is much more difficult, and in many cases is only made by a rigid process of exclusion. In all cases inflammatory conditions, syphilis, tuberculosis, sarcoma, and the benign tumors must be excluded, before a positive diagnosis is made. A careful examination of the lymphatics should be made in all cases when cancer is suspected. The presence of large matted glands in the axilla on the diseased side would suggest either cancer or infection, but the apparent absence of lymphatic enlargement would not justify the conclusion that the tumor was of a non-malignant nature, as it is often impossible in corpulent women to detect nodes even as large as a pigeon's egg.

When the lymphatics generally are enlarged and indurated syphilis should be suspected, and the tumor subjected to the closest scrutiny to exclude the possibility of a gumma. Syphilitic lesions are often multiple and show a tendency to heal under vigorous antisyphilitic treatment. A carcinomatous ulcer is almost invariably an isolated affection and never heals, although it may remain stationary for a comparatively long time. While

tuberculosis of the breast is occasionally seen it is generally secondary to tuberculosis of some other part of the body. The tubercles may be disseminated through the gland or collected in one or more comparatively large masses. The history of the case furnishes valuable aid in making a diagnosis.

Blood-pressure Observations in Surgical Cases.

In this research the authors, W. E. Faulkner, Jas. S. Store, and F. T. Murphy (*Boston Medical and Surgical Journal,* March 10, 1904), considered three questions: (1) Does the Riva-Rocci apparatus indicate the true blood-pressure with sufficient accuracy for clinical purposes? (2) In what cases and under what circumstances are the errors due to the apparatus so great as to invalidate its advantageous use? (3) What is the value of blood-pressure observations under the following heads: (*a*) as an indication for or against operation; (*b*) during the course of an operation; (*c*) in after-treatment of surgical cases? The first and second questions are discussed together, and the summing up is given as follows:

1. The inaccurate readings obtained in cases of arteriosclerosis and excessive muscular development are partially obviated by the use of a 10-centimeter armlet with the Riva-Rocci apparatus.

2. The presence of dyspnea causes inaccuracy in the blood-pressure determinations with either a broader or narrower band.

3. Change of posture invalidates the readings obtained with either form of apparatus.

4. Emotional individuals and children show fluctuations of the blood-pressure out of all relation to the actual condition of the patient.

5. Under other circumstances than those above recorded, the accuracy of the determinations with the Riva-Rocci apparatus appears to be sufficient for clinical purposes.

The Symptoms and Treatment of Diseases of the Pancreas.

A great variety of symptoms may, according to A. Mayo Robson (*Lancet,* March 19, 1904), occur, from mere attacks of colic in the epigastric region, soon passing off, to violent and persistent pain followed by collapse and rapid death within a short time; or if recovery from the first seizure should occur the

attacks may be repeated, and ultimately symptoms of acute pancreatitis may supervene. The site of the pain may be precordial or dorsal, but it is usually epigastric, and is often accompanied by vomiting. The abdomen soon becomes distended and tympanitic, and if inflammation occurs fever of an irregular type may supervene, or if the disease assumes a rapid ultra-acute form the temperature may be subnormal throughout. At first the diagnosis will be obscure, but with the onset of pancreatitis some of the symptoms which I have related will be found, and an examination of the urine for the pancreatic reaction will afford valuable help.

In the very acute cases where death rapidly occurs even if the diagnosis could be made specific treatment would probably be useless, but if the diagnosis could be effected before a fatal result had occurred abdominal section and gauze packing would seem to be indicated. In the later stages the treatment is that of acute pancreatitis, and in this case a diagnosis can be made both from the symptoms and physical signs as well as from the discovery of the pancreatic reaction in the urine.

Uterine Carcinoma and Vaginal Operation.

L. Flaischlen (*British Medical Journal,* February, 1904) gives the results of 48 vaginal operations for uterine carcinoma performed by Ruge and himself. Four patients died from the operation; twenty remained free from recurrence; seventeen are still, after from seven to eighteen years, permanently cured; three died from intercurrent disease. The proportion of permanent cures therefore reached 34 per cent. Of the recurrent cases sixteen died within two years of the operation, three in the third, and five not till the fourth and fifth years. Flaischlen insists that the success of any operative treatment depends chiefly on the early diagnosis of the disease, but that his statistics prove at all events that good permanent results can be obtained by the vaginal operation.

Normal Labor Considered from a Surgical Standpoint.

A. M. Pond (*Medical News,* April 9, 1904) says success in obstetrics depends wholly upon your ability to secure and retain surgical cleanliness. The same infective agents encountered in surgical practice are the causative agents in producing puerperal complications, and are only successfully combated by the employment of stringent aseptic and antiseptic techniques.

Refrain from making numerous vaginal examinations, and when done take great aseptic care. Do not wait until you are called to the case to make the preparations for confinement. The practice of carrying a confinement pad is dangerous. Sunshine in itself is a valuable germicide; do not exclude it. Unless the vaginal discharge is known to contain pyogenic bacteria the douche is contraindicated. Exert the same surgical technique in dressing the umbilicus that would be demanded in any other fresh wound. Be clean, and be sure that you are clean. Take no chances. By so doing you will reap a liberal temporal reward, besides having the serene satisfaction of knowing that you are serving humanity faithfully and well.

A Tumor Resembling a Caudal Appendage—A Rare Anomaly in a Child.

A. Carin (*Archives of Pediatrics,* April, 1904) describes a case of a child thirteen days old who was brought to the clinic on account of a coccygeal tumor resembling in shape a caudal appendage. The tumor was 8 centimeters long and 5 centimeters wide at its base or widest part. This caudal appendage was implanted between the last sacral vertebra and the coccyx, slightly to the left of the median line. The anus was pervious, in spite of the fact that the tumor covered it partly. The tumor was softer at the apex and at the base than in its middle portion, and at the tip ended in a cyst which contained some transparent fluid. In the center of the tumor there was a fibrocartilaginous cord which passed through it and seemed to be connected to the last sacral vertebra. When the child was irritated, or when it cried, the tail-like appendage was seen to move in all directions in a series of motions which resembled exactly those of the tail of an animal. The tumor was removed completely, and the child made a good recovery, with perfect disappearance of all traces of the deformity except a small scar.

The Omentum as an Organ of Protection.

E. de Renzi (*Berliner klin. Wochenschrift,* 1903, No. 34) made numerous experiments on dogs by tying the splenic artery and vein, and found that the circulation still continued, due to adhesions formed with the omentum, whose vascularity was unusually large. If all the vessels leading to and from the hilum

are ligated the spleen becomes necrotic, though in a few days it is completely encapsulated by the omentum and gradually absorbed. If the omentum is moved as far as possible from the spleen after ligation gangrene without absorption occurs, and the animal dies in twenty-four to forty-eight hours, evidently due to the fact that the toxic substances are not taken care of by this organ. The same results were found in experiments of tying the vessels of the hilum of the kidney. The omentum also encapsulates foreign bodies introduced into the peritoneal cavity, and they remain there indefinitely without causing any disturbance.

Fat Embolism in Orthopedic Surgery.

Preindlsberger (*Zeitschrift für Heilkunde,* Bd. 24) in making a correction of a genu valgus with a Lorenz osteoclast on a seventeen-year-old girl found that the patient on the day following the operation was suffering from an increased heart action. The patient died on the third day, of collapse, preceded by attacks of dyspnea and pain in the epigastrium. The postmortem showed a well marked fatty embolus of the pulmonary artery and a hemorrhagic infiltration of both lungs.

MEDICINE.

Late Effects of Typhoid Fever on the Heart and Vessels.

W. S. Thayer (*American Journal of the Medical Sciences,* March, 1904) makes the following conclusions from his study of 183 cases of typhoid:

1. The average systolic blood-pressure in these old typhoids was appreciably higher than in the control observations of healthy individuals.

2. The higher average of the blood-pressure was constant in every decade.

3. In many instances among them the blood-pressure exceeded appreciably the limits ordinarily expected.

4. The radial arteries were palpable in a proportion nearly three times as great as was found to be the case in supposedly healthy individuals who had never had the disease.

5. The average size of the heart was greater than at the time of their first appearance at the Johns Hopkins Hospital, with typhoid fever.

6. Cardiac murmurs were considerably more frequent among old typhoids and in the same cases during attacks.

7. In eight cases where the heart was considered normal on discharge from the hospital, subsequent examination revealed hypertrophy with mitral insufficiency. One case showed a possible mitral stenosis, one aortic insufficiency, one general arteriosclerosis with hypertension.

8. In one case the aortic diastolic murmur was present four months after discharge, but disappeared later.

9. Patients whose pulse was very irregular during the disease showed on the average a higher blood-pressure than others. In other respects their condition was very little different.

10. Cases in which the systolic murmur at the apex was observed during the attack showed later an increase in the blood-pressure and in the size of the heart, as compared both with the mean of observations made on the same cases on admission and with the general average for the old typhoids. Nearly one-quarter of the cases in which during the attack systolic apical murmurs were detected showed later evidence of organic heart disease. Indeed, the majority of all the organic lesions among the 183 old typhoids were found among these 31 cases.

Some Toxicogenic Germs Found in Drinking-water.

V. C. Vaughn (*Journal of the American Medical Association,* April 9, 1904) says that of 709 samples of drinking-water sent by health officers and other physicians to the hygienic laboratory of the University of Michigan between October 1, 1888, and December 31, 1903, 213, or 30 per cent, contained toxicogenic germs.

Ten samples, or 1.4 per cent, contained no bacteria capable of growth at 38°C. Of these ten samples, four were from deep springs and six from the Great Lakes—four from Lake Superior and two from Lake Huron.

Waters that contain no germs capable of growth at 38° C. or higher cannot cause disease.

Waters that contain no toxicogenic germs are not condemned. Waters that contain as their only toxicogenic organism a typical colon bacillus are not condemned. By a typical colon bacillus is meant one which is non-motile, produces indol abundantly, produces acid in milk, coagulates milk within twenty-four hours, and evolves more or less gas from glucose and lactose cultures.

Waters which contain as their only toxicogenic organism a typical proteus bacillus are not condemned. It must be remem-

bered that other germs cannot be excluded until after repeated plating of cultures made from the heart's blood fails to show their presence.

Waters that contain any member of the venenous group, or any such germ as is marked doubtful in the table given, are condemned. The author has never found in drinking-water a germ that responded to the Widal test.

Sixteen years of experience with this method of water analysis convinces him that the results given by it are in the majority of instances trustworthy.

Typhoid Pericarditis.

Pericarditis is a rare complication of typhoid fever, and but few cases are on record. D. Delsart (*British Medical Journal,* April 2, 1904) describes some, and summarizes the literature on the subject. The evolution of typhoid pericarditis varies according to the form taken by the latter disease. The course and duration of typhoid do not seem to differ in those cases in which pericarditis is a complication. Friction diminishes slowly and disappears by the time the pyrexia subsides. In some cases friction persists during the whole period of convalescence, and only disappears by the time the patient is completely restored to health. The writer has not been able to trace any fatal cases of typhoid directly to pericarditis. In some cases the myocardium appeared to be severely affected. To this death may be attributed rather than to pericarditis. Thus in the event of pericardial friction being heard in a case of typhoid, careful attention must be paid to the pulse and the character of the sounds, for irregularity of the former, feebleness and incompetence of the latter, with cyanosis and cold of the extremities, indicate a myocardial extension. Typhoid pericarditis occurs as a rule in the serofibrinous form. Purulent pericarditis is very insidious, as the symptoms and signs are masked by myocarditis on the one hand and typhoid on the other. Purulent effusion forms rapidly in some cases of typhoid, and a fatal termination may be expected in six or seven days.

Coagulation of the Blood and Thrombosis.

Leo Loeb (*American Medicine,* April 9, 1904) arrives at the following conclusions: It is possible to obtain thrombi composed mainly of agglutinated blood-plates in animals whose blood has been made incoagulable by injection of leech-extract. It is there-

fore probable that agglutination of cellular elements and not formation of fibrin is the primary factor in thrombosis. An active influence of the endothelium of blood-vessels inhibiting the coagulation of the blood cannot be shown to exist. The serum of the dog has an inhibiting influence on the effect of tissue coagulins, which themselves accelerate the coagulation of peptone plasma. This inhibiting effect is probably a specific one. Organs undergoing processes inside the body which are similar to autolysis have still an accelerating effect upon the coagulation of the blood. Ankylostoma contains a substance strongly inhibiting the coagulation of the blood. This substance is produced principally or entirely in the anterior part of the body. It is probably one of the causes of the anemia of ankylostomiasis. The material covering the intestinal mucosa has a strongly accelerating effect on the coagulation of the blood, being thus able to restrict hemorrhages. The pancreas possesses the least coagulative power of all organs examined, and is therefore relatively favorable to hemorrhages.

Thymic Tracheostenosis.

W. W. Carter (*Medical Record*, April 2, 1904) says that in all cases of laryngeal stridor it should be determined whether or not the thymus is enlarged.

On account of surgical shock being badly borne by infants, and especially those in this condition, if the symptoms are not urgent, postural treatment should be tried, and if in any position of the head and neck relief is afforded, that position should be maintained by suitable apparatus until nature has effected a cure by enlargement of the thorax, strengthening the tracheal rings, and diminution in the size of the gland.

Intubation, tracheotomy, and artificial respiration do no good.

The surgical procedure of opening the mediastinum, bringing forward the gland and stitching it to the tissue over the sternum, should be performed immediately if there is danger from asphyxia.

Tropical Cutaneous Myiosis in Man.

According to J. L. Adams (*Journal of the American Medical Association*, April 9, 1904) cutaneous myiosis in Darien is usually due to the dermatobia noxialis. Man and dog are host by preference. The dermatobia noxialis, though not confining its attacks to man alone, cannot be called an occasional parasite of man, as

it attacks all who are properly exposed. White-skinned races are more susceptible to the disease than the darker races. The period of incubation is from sixteen to twenty-three days, from exposure to the development of the first symptoms. Larvæ differ in shape according to anatomic location. Grub or larva, if left alone, will not produce injurious results. Abscess and ulceration are the results of attempted expulsion without proper preliminary treatment.

Pemphigus Vulgaris.

A. C. Eustis (*American Medicine*, April 16, 1904) says that in cases of pemphigus a diplococcus can be isolated from the contents of the bullæ.

This diplococcus when injected intravenously into the rabbit will cause death.

A diplococcus removed from the blood of the rabbit and identical with that obtained from a case of pemphigus vulgaris, when injected into the pig (*Sus scrofa*) produces a pustular eruption in the latter animal, attended with mild constitutional disturbances.

Arsenic is the main remedy to be relied upon in the treatment of pemphigus vulgaris.

Bacteriological Examinations of Blood of Cadavers.

Simmonds (*Virch. Arch.*, Bd. 170) shows some interesting results from his extensive examination of the blood of cadavers. Of the 1200 cadavers examined nearly one-half showed the presence of bacteria in the heart blood. The bacteria found were not due to post-mortem invasion. Negative results were obtained in acute tuberculosis, polyarthritis, poisoning cases, heart and blood-vessel diseases. The bacteria most frequently found were the streptococci, especially in such cases as scarlet fever, diphtheria, and destructive pulmonary tuberculosis, as well as in certain cases in which a diagnosis could not be made.

Early Diagnosis of Typhoid by Splenic Puncture.

Adler (*Deutsche Archiv f. klin. Med.*, Bd. 75) recommends splenic puncture as a reliable method in the early diagnosis of typhoid. He obtained positive results in forty-two cases of the forty-six which were examined. The clinical course of the dis-

ease and the autopsies show that this method when carefully carried out is devoid of danger; in cases of hemorrhagic diathesis and in advanced age it is contraindicated. To demonstrate the typhoid bacillus the splenic juice obtained by puncture is placed in bouillon and kept in the incubator for ten hours; the bacilli are then tested with the agglutinative reaction.

The Etiology of Rachitis.

R. G. Freeman (*Archives of Pediatrics,* April, 1904) says that experiments on animals would seem to indicate that unsuitable food is capable of producing rachitis, and that possibly certain bacteria or intestinal toxins may produce a similar result.

The clinical observations are too limited for any positive deductions, but are interesting inasmuch as they indicate less rachitis in the tenement than in the institution children fed on modified milk, and the greatest amount of rachitis in institution babies fed on breast milk with auxiliary feedings of condensed milk.

Pathogenesis of Icterus.

Eppinger (*Ziegler's beit. z. Pathologie,* Bd. 33) studied the pathogenesis of icterus by an examination of the biliary capillaries in this condition, especially in cirrhosis and phosphorus poisoning, also in cases of heart disease. He finds that in Laennec's cirrhosis the capillaries are obstructed on account of the connective tissue proliferation. The same condition takes place in toxic cyanotic icterus, though in these cases it is due to thrombosis. The author concludes that all cases of icterus result from a stasis of bile with a rupture of capillaries, the bile being taken up into the circulation.

Disseminated Cutaneous Tuberculosis.

Tobler (*Jahrb. f. Kinderheilk.,* Bd. 9) reports a case of disseminated tuberculosis of the skin which followed an attack of scarlet fever in a boy five years old. In comparing this case with others the writer concludes that after measles and scarlet fever the cutaneous surface is in a condition of *locus minoris resistentiae* to the tubercle bacillus, and that the infection is carried by means of the circulation. The exanthem appears soon after the acute disease and during convalescence.

Diabetic Coma Following Operations.

Sintenis (*Deutsche med. Wochenschrift,* No. 42) reports a case of a diabetic who was operated on for the relief of a large furuncle. Schleich's infiltration anesthesia was used, and the operation was followed by coma, from which the patient recovered; a second operation was performed, which was followed by a fatal coma. The author deduces from this that it is not chloroform or ether narcosis but the operation itself which brings on the comatose condition, but it is possible that in this case the furuncle itself might possibly have been the cause.

Habitual Obstipation.

Lohrisch (*Archiv f. klin. Med.,* Bd. 79) finds that in many cases of habitual obstipation there is an unusually small amount of dry substance in the intestine. This reduction of solid matter is the result of an increased resorption of the foodstuffs. This condition affords an unfavorable medium for the action of the putrefactive bacteria of the intestine. With a reduction of fermentation and putrefaction the irritation which causes normal peristalsis is lessened, with a resultant lack of function of the intestine and obstipation.

Etiology of Typhoid.

Schuder (*Zeit. für Hy. u. Infect.,* Bd. 38) after a series of careful observations has compiled the following reliable statistics regarding epidemics of typhoid fever: He finds that 70.8 per cent of the epidemics are directly traceable to infected water, whilst 17 per cent are found to be due to contaminated milk, 3.5 per cent can be traced to infections of other foods, and the other 8.7 per cent could not be traced to any individual origin.

Destruction of Tubercle Bacilli in Milk.

Rullman (*Münch. med. Wochenschrift,* No. 12) by experiments on a number of animals shows that by heating milk to 68° C. for one hour with constant stirring tubercle bacilli are completely destroyed. He also shows that this temperature does not change the taste of the milk nor chemically alter the albumin or lecithin in it, thus giving practically a sterile milk with a chemical composition the same as fresh milk.

THERAPEUTICS.

The Kollman Five-glass Test.

Where the use of the urethroscope is practical G. T. Mundorff (*Medical Record*, April 2, 1904) recommends the five-glass test of Kollman. The modus operandi is as follows: After cleaning the meatus with some antiseptic solution, the physician introduces the catheter up to the external sphincter, care being taken not to force it beyond this point. Steadying the catheter in this position by grasping the penis with the left hand and holding the catheter by the forefinger and thumb of the same hand, the physician attaches the syringe filled with a mild boric-acid solution and gently forces the fluid into the urethra. The returning fluid is allowed to fall into a urine glass held by the patient. The physician examines this and notes the presence of shreds and mucus. After detaching the syringe, it is again filled and the irrigation repeated. All the solution returning from the urethra is poured into one glass, and is known as No. 1. The irrigation is continued until no more shreds are found in the irrigating fluid. Ten to fifteen irrigations may be necessary before this result is reached. When the physician is certain that he has removed all shreds present in the anterior urethra, he allows the fluid returning from the last injection to remain in the glass held by the patient, and designates this as No. 2 or the "control glass." The catheter is then withdrawn, and the patient is permitted to urinate into the remaining three glasses, numbered respectively three, four, and five. Glass No. 3 should always be regarded as doubtful, since it is possible that some shreds in the anterior urethra did escape the irrigation. Shreds in glasses No. 4 and 5 signify pathological changes in the posterior urethra, bladder, and possibly kidneys.

Treatment of Typhoid Perforations.

Louis Frank (*Journal of the American Medical Association*, April 2, 1904) says we may expect to find perforations in about 2.5 per cent of all cases of typhoid fever. Prompt surgical intervention is the best and only logical treatment. Early diagnosis is most desirable, and will be the means of greatly reducing the mortality, as 55 to 60 per cent would recover.

Diagnosis sufficiently early to achieve these results can only be made by careful watching, treating all cases as serious ones, and a proper interpretation of the early, even the preperforative,

symptoms, the suggestions of Cushing as to this stage being of value. At the first indication of this stage have the surgeon in consultation and be prepared to operate.

The sphygmomanometer should come into general use as an important aid to diagnosis.

More cases die from delay than from errors in surgical technique. Therefore in doubtful cases, though a mistake may be made and no perforation found, operate.

No case, unless dying, is so desperate as to be beyond some hope of saving. So in operating lose no time and be sure to drain.

Get into the abdomen quickly, and get out more quickly.

The Therapeutic Value of Injections of Antidiphtheritic Serum.

L. Cruveilhier (*Ann. de l'Inst. Pasteur,* January, 1904) concludes from his experiments that in diphtheria as in tetanus there is a period after which the administration of antitoxin is of no value; the injection of a primary massive dose is useful and necessary; the dose should be repeated, at least in all serious cases; intracerebral injections are more efficacious than the subcutaneous, but intravenous injection is the method of choice and a most valuable therapeutic measure.

RHINOLOGY AND LARYNGOLOGY.

UNDER THE DIRECTION OF WADSWORTH WARREN, M.D.

Persistent Superficial Nasal Hyperemia Cured by Removal of Adenoids.

Mr. Wyatt Wingrave in the London *Lancet* of December 19, 1903, reports the following case:

The patient, a man twenty-one years of age, complained of intense and persistent redness of his nose of two years' duration. The onset was gradual, and he could not associate it with any particular cause. He was a teetotaler and a very moderate smoker, and he enjoyed excellent health. Nasal respiration was free, and nothing abnormal was to be seen by anterior rhinoscopy. The tip, the alæ, and quite two-thirds of the nose were of an intensely vivid red color, somewhat shiny, but not swollen, tender, or painful. Being subject to indigestion the patient was forbidden tea, and was treated with alkaline tonics and saline aperients. After two months' treatment he showed no improvement,

but a prominence of the supranasal vein being noticed the nasopharynx was examined by the mirror and finger, revealing a large crop of adenoids. Their removal was soon followed by diminished redness of the nose, the prominent veins disappeared, and in one month the organ became normal in appearance and it remains so.

The case is interesting in so far that it affords a striking illustration of the close relationship between the supranasal vein and adenoids during a period of life in which neither are commonly found, and further increases the already long list of troubles due to neglected adenoids. The subject is of further interest with regard to its pathology, which admits of several interpretations. First there is the mechanical, in so far that the adenoids themselves directly interfere with venous arch in infants, so often the subject of superstitious dread. Further, again, their interference with breathing leads to a general increase of venous pressure, which the vessels in question specially show. A second view is that the adenoids are responsible indirectly by causing a reflex inhibition of a local vasomotor influence. This may be the interpretation in the present instance, while the first view will be more applicable to children.

Treatment of Ozena by Means of Paraffin Injections.

Dr. Fliess, assistant of Dr. Herzfelds in Berlin (*Wien. klin. Woch.*, No. 15, 1904) has reported his experience with this treatment, using the same method employed by Professor Moure and Dr. Brindel in Bordeaux, and Dr. Boeckaert in Brussels, in treating twelve cases of ozena with the paraffin injections, using in all thirty-two injections. He had expected from these cases a symptomatic improvement without recovery, but he obtained results such as they had never been able to obtain by any other means of treatment. The procedure consisted in carefully cleaning out the nasal cavities, removing all crusts and secretions, and cocainizing the lower turbinated bodies and walls of the septum. He used a bayonet-pointed needle on a curved cannula, employing paraffin with a high melting point. According as the anterior or posterior part of the lower turbinated body was atrophied he used the injections first in the most atrophied portion, often treating both sides at one time. The aim of the treatment was to produce a narrowing of the nasal passage. When it was not possible to accomplish this entirely by means of the injections into the turbinated body, he employed similar injections of the paraffin in the nasal septum. In some instances after the injections there was

an entire disappearance of all crusts, and in others only a small amount of secretion was present. As to odor, there was an entire disappearance in some patients, while in others a slight odor was noticeable after the treatment. Two or three times after injections the patient suffered from pain in the forehead or cheeks, but this disappeared promptly after twenty-four hours. On one occasion a bosslike infiltration appeared on the forehead between the eyebrows, but after rest and warm applications this completely disappeared in two days.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

The Condition of the Blood in Ovarian Cysts.

Pozzi and Bender (*C. R. Soc. Obst. Gyn. Ped.*, November, 1903) after examining the blood of twenty-three women with ovarian cysts have drawn the following conclusions:

1. In the majority of cases it is possible by examination of the blood to distinguish an innocent from a malignant cyst of the ovary.

2. If the number of red corpuscles is normal and the proportion of leucocytes from 6000 to 8000, the cyst is of a benign character.

3. The presence of a moderate degree of leucocytosis with a normal or nearly normal proportion of red corpuscles is not sufficient to indicate malignancy, as such a condition is common with voluminous and constantly suppurating cysts.

4. Marked diminution of the red corpuscles associated with a leucocytosis of from 12,000 to 20,000 points to malignant degeneration, but the presence of anemia is more significant than leucocytosis.

5. Examination of the blood may give valuable indications as to prognosis: in two instances patients with marked leucocytosis and pronounced diminution of the red corpuscles succumbed rapidly after operation, though there was no reason to suspect infection.

It is well to mention that two of the twenty-three cases were exceptions to these conclusions; in one malignancy was indicated but could not be confirmed histologically; in the other the red corpuscles numbered 4,470,000 and the white 12,800, though the cyst removed was undoubtedly malignant.

THE MEDICAL AGE

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ORIGINAL CONTRIBUTIONS.

HARELIP (ILLUSTRATED).

BY DANIEL LA FERTÉ, M.D.,

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In the treatment of harelip the efforts of surgeons for the most part have been directed toward closing the fissure in such a manner as to make the lip of uniform thickness and to avoid leaving a dimple in the vermilion border of the lip at the junction of the two flaps.

Little effort has been made, in planning the different operations, to so plan the trimming of the edges that in the male child when he grows up and desires to wear a mustache the part in the mustache may be in the median line and not to one side of the column of the nostrils. I venture the assertion that many grown-up individuals whose mustaches part to one side on account of a previous operation for harelip would willingly submit to an operation for remedying that defect if they were cognizant of the fact that such an operation was practical. Another point that has been sadly neglected is the flattened and depressed nostril that is generally found on one side of the nose.

The late Dr. A. M. Phelps was the first, I believe, to call attention to the desirability of throwing the scar in the median line of the lip. The drawings in this article are largely copied from an article from his pen.

The object of the operator should be to make as artistic a lip as possible, and not only to close the fissure in as easy a manner as possible. He should try to have a lip that shows a graceful curve from each corner of the mouth to the median line, where it should terminate in a slight prominence, as seen in Fig. 3. That should be our aim, but it is not always possible to be as successful as we desire.

Describing the different steps of the operation should aid in its understanding. First take a loop of silk through each angle of the lip, at 4 right side and at 4 left side (Fig. 1). These are made taut by traction with the left index-finger, which aids to steady the parts, and thereby facilitates the other steps of the operation. By means of scissors or knife the lip together with the depressed ala of the nose are dissected from the bone, and if deemed advisable the ala of the nose may be slightly detached also upon the other side. The upper lip must be sufficiently detached so that it can move freely over the bone. With a tenotomy knife puncture the lip at *aa*, Fig. 1, the parts being put upon the stretch by making slight traction on the silk loops. The incision should describe a curve, following the dotted line to 2, and from there to 3 (see Fig. 1); then cut from 3 to 4 through the entire thickness of the lip (Fig. 1). The pieces *B* and *B* are now turned downward, leaving the V-shaped piece seen in Fig. 2. Now sew the raw edges together (I prefer fine silk for that purpose), when the result will appear as shown in Fig. 3; raise the lip and sew the mucous membrane as high as possible.

We should always allow for a certain amount of retraction. Therefore care must be taken that the pieces *B* and *B* shall be longer than is actually necessary. If there is too much redundant tissue, that can be trimmed off at the last stage of the

FIG. 1.

FIG. 2.

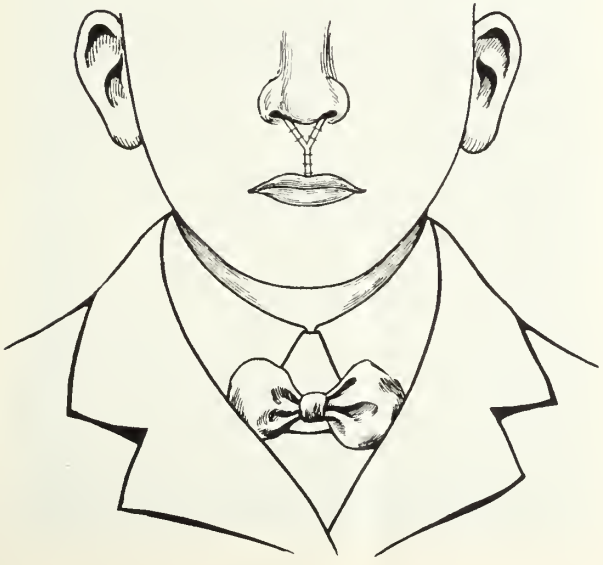

FIG. 3.

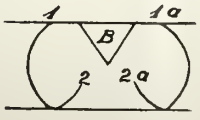

FIG. 4.

operation. This operation is practicable in all cases of single harelip where one-quarter of the length of the lip remains between the fissure and the corner of the mouth. The punctures at 2, Fig. 1, should be at equal distance from each corner of the mouth, and both nostrils should be entered at the same point

FIG. 5.

on each side (3, Fig. 1). The V should be about one-half the normal width of the lip. If the V should be cut too short, the defect can be remedied by making a transverse cut through the whole thickness of the lip around the ala of the nostrils. If the V is left too long, it would cause the middle of the vermilion

border of the lip to drop too far down at the median line. These same incisions can be made in cases of double harelip, saving the center from which the V is made (Fig. 4). This figure gives a good illustration of the manner in which the incisions are made in cases of double harelip.

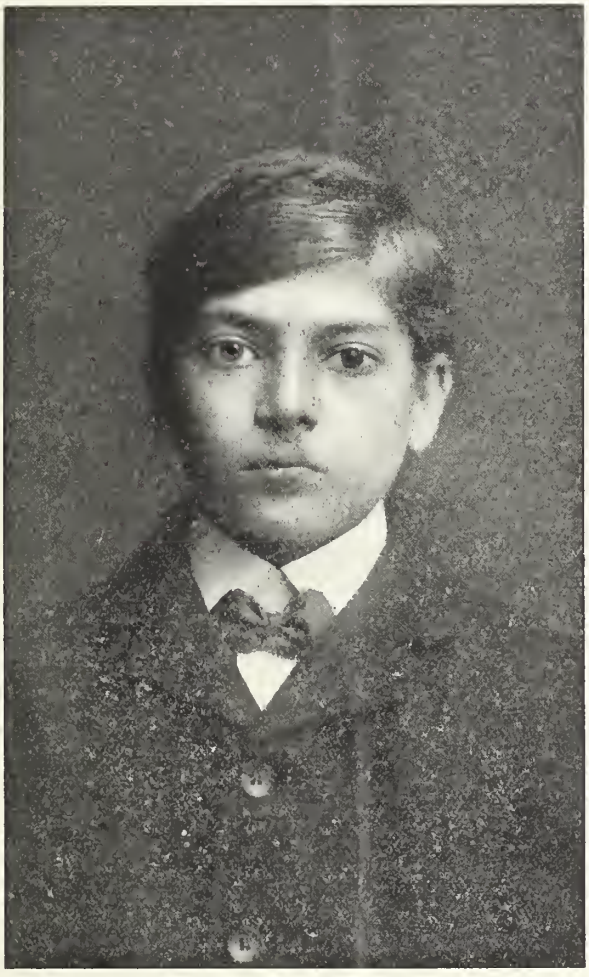

FIG. 6.

I had occasion lately to put this operation in practice at the Children's Free Hospital for single harelip in a boy fourteen years of age, who said he had been operated on twice for his defect since his birth, and whose lip when he came to me was in the condition represented in Fig. 5.

My incisions were planned as indicated in Fig. 1, and the flaps brought together as shown in Fig. 3; the result shows an artistic lip with the scar directly under the column of the nostrils (Fig. 6).

This method of operating I have followed for some time, and I feel pleased with the results.

Where one nostril is depressed and the ala of the nose upon one side spread out upon the face, I dissect the ala of that side from the bone and put in a button suture, the suture penetrating from the depressed and loosened ala through to the fixed ala of the opposite side. In about five days the suture is removed, when the lip will be found to have become attached to the raw surface of the bone underneath and the wing of the nose to have become elevated.

ARE WOMEN FITTED TO WORK REGULARLY?

BY WM. LLOYD, M.D.

The nineteenth century has been called "woman's century," for during it she has been emancipated from the position of a doll or a slave and made to take her part in the world's work with its responsibilities and criticisms. Undoubtedly even the most thoughtful scarcely realize the extent of this change. What occupations, what businesses, what careers were open to women a hundred years ago? We must acknowledge, scarcely one. She was allowed to marry and bring up children or to stay single and do what little was tossed to her. The change has been terrific. Now she can become a lawyer, a physician, an architect, a stenographer, a business woman, a canvasser, a druggist, and even occasionally fill some distinctly mechanical position, such as electrician or carpenter.

Carping critics decry this change; they long for the old-fashioned days; their ideas are expressed in that cynical toast, "To woman, once our superior, now our equal"—but undoubtedly it has been as marvelous an advance in sociology as human mind can grasp. Of course the writer realizes fully that the great majority of women must be mothers and housekeepers, and that their natural gifts generally shine better in the home. The true woman, no matter how successful in business, law, or medicine, longs for a home of her own, a loved husband, and children. Yet there are two phases in answer to this problem: First, many women are so situated in life that they do not marry, and to such this opening in the world of work is a godsend. Again, even with busy mothers the outside world has crept in

with its responsibilities, and to-day the mother has her congresses, her civic betterment clubs, and other elevating work. We do not condemn a father for keeping in touch with the affairs of the world; it is the rankest cant to criticize or belittle the mother who is anxious to bear her share of outside responsibility.

As physicians we fall into touch with the problem of the ability of women to work every day in the year if necessary. It would be impossible, for example, to shut the offices, the stores, and the theaters at times of the periodical sicknesses of women, and yet we hear constantly of the inability of women to do their work on this account. After some years of experience in this class of work I have come to believe that *the healthy woman needs no rest at her menstrual periods.* I read some years ago Dr. Mary Jacobi's brilliant essay on this subject, and I have been testing it for myself. Using her work as a basis I have interjected into it my individual thoughts and experiences, and will state in this paper why the physically perfect woman should be as ready for work as the physically perfect man.

Should pain exist from the first menstruation it depends upon various causes: these are imperfect power of resistance in the nerve centers, rendering them susceptible to the excitement of the increased vascular tension that prepares the menstrual flow; this excitement being in itself a cause of general disturbance, accompanied by vasomotor irritation, hence local disturbance in the circulation of the uterine walls, and atonic contractions, or pain, may result from disproportion between the development of the uterus and the remainder of the body, resulting in various organic defects of the uterine region. In some cases there is reason to accuse a precocious completion of development of the central nervous organs, and its equally precocious diminution of muscular activity; consequently the muscles assume the habit of rejecting a certain proportion of nutriment, in order to provide for the development of the supplemental wave as pointed out by Jacobi. As a result individual nutrition is arrested, reproductive nutrition commences before the organs of the individual have been properly elaborated, and before the organs of reproduction have been sufficiently developed.

Menstrual pain may also result either by the acquisition of the states of imperfect nutrition, which in the first cases are congenital or developed during childhood, or by the continual aggravation of the effects of the local organic imperfections,

whose influence was at first slight, or in consequence of organic utero-ovarian disease. These conditions may result from various accidents common to the genesis of any disease in either sex, but also from two causes, very much more frequently operative in women than men, namely, ill-arranged work and celibacy; finally from another class of causes, necessarily peculiar to women, sudden suppression of menstrual hemorrhage, or the accidents of pregnancy and parturition. Not in equal relation exist all forms of menstrual pain or uterine disorder that may have existed before marriage; their liability is very much increased where the uterine contractility has become deficient or exhausted during repeated menstruations. If women in good health suffer severe menstrual pain, nearly always it is dependent upon some anatomical imperfection of the uterus; this may originally appear a mere trifle in the sum of organic development, yet from the peculiar circumstances of the case its results may be marked. In the case of patients in delicate health who are free from menstrual distress, the supplemental wave of nutrition does not rise sufficiently to greatly increase general vascular tension, or because the uterus is too slightly hyperemiated to excite reaction. It is a well known fact that chlorotic and consumptive girls who have suffered pain before marriage sustain their first pregnancy better, or are even improved by it more, than those in whom, with equally low individual nutrition, the supplemental wave had been too defective to cause irritation; fifty per cent of the women examined by Jacobi suffered more or less disturbance at menstruation, as a result of the habits of civilized life and the very slender provision made for the physical education of girls, especially for the development of their muscular nutrition. But nature intended that no anatomical or physiological condition in the entire menstrual process is necessarily productive of suffering; rather these rhythmic waves of nutrition, as in the larger waves of gestation, show remarkable provisions for rhythmically increasing nutrition and the vital energy of the woman. Such provisions should serve to compensate for the deficiency in the stimulus afforded by muscular activity; the social perversions, by which these processes so often deteriorate what they are naturally adapted to improve, are: Bad physical education during childhood and adolescence; absence of employment, or work that is either absolutely excessive or excessive relative to woman's constitution, by being prolonged too much during a single session, or else which is insufficiently relieved by recreation or insufficiently spurred by interest; unduly prolonged celibacy, and unequal

distribution of reproduction, on account of which many women are broken by excessive child-bearing, while many others never obtain the opportunity to bear a single child.

Whether to disregard menstrual pain depends on its proximate causes; purely spasmodic pain of moderate intensity certainly is tolerated in an immense majority of cases far better while the ordinary occupations are continued, while pain from organic defect, or from local nutritive disorder, should, wherever it be possible, claim rest; but this will not cure pain, unless special treatment be instituted. When rest really cures or prevents menstrual pain, it is in those cases where general debility is so marked that the loss of blood at menstruation is sufficient to lower the nutrition of the nerve centers below the level to which they are capable of generating force with ease; here any expenditure of force weakens them still further, and vasomotor irritation and uterine cramps result. These women may feel perfectly comfortable during the menstrual flow, while inactive, but excitement or exertion of body or mind brings on pain. In them the supplemental wave of nutrition has been sufficient, yet the hemorrhage, once commenced, is continued by habit and relaxation of tissues; the deficiency is supplied from the blood needed for the individual nutrition. Nothing in the nature of menstruation implies the necessity or even the desirability of rest, for women whose nutrition is really normal; in truth the habit of periodical rest may indeed become injurious, because in the cessation of nervomuscular activity the blood properly attracted to the muscles and nerve centers would be diverted from them, and tend toward the pelvis, increasing its hyperemia above the physiological standard. Many cases of pelvic congestion, developed in healthy but indolent luxurious women, are often due to no other cause.

The theory that during the menstrual flow there is a cerebrospinal excitement, determined by "ovarian irritation," incompatible with cerebrospinal activity, is entirely false, based on false analogies. The menstrual flow is really the least important part of the menstrual process, and arguments for rest drawn from the complexity of the physiological phenomena involved in this should logically demand rest for women during at least twenty days out of the twenty-eight or thirty—in other words, should consign them to the inactivity of a Turkish harem, where indeed anemia, if not dysmenorrhea, is said to be extremely frequent. The writer has held, in common with prominent gynecologists, that the demands for exertion made by industrial labor, or by any such employments as clerkships, or teaching in average

schools, cannot be considered to involve any decided mental labor. The question arises whether in school or college, in the professions, or in any pursuit of independent responsibility, where at any moment may be required the exertion of independent judgment, thought, and will, a woman is fitted by nature. There is a widely diffused sentiment in regard to women's capacity for such independent responsibilities. I quote from Jacobi, who has written clearly on this subject:

"The habitual modesty of American speech often enforces silence in regard to the fact upon which this sentiment is supposed to be based, but from time to time the silence is broken, and it is plumply asserted that 'during the temporary insanity of menstruation' female judgment is unreliable, or even unsafe, because no form of mental action can be adequately carried on during this period. It must follow, therefore, that no duties, as those of law or medicine, for instance, for whose fulfilment the woman is liable to be called upon during this critical period, should ever be assumed by her. Justice to the public, if not to herself, demands that she should be peremptorily excluded from such responsible fields of action, even when her own ill-starred ambition may lead her to invade them."

Among all the facts that we have examined, there is but one group that might seem to justify the theory that mental rest was imperative for women in menstruation, whatever might be the case with physical. We have seen that alterations of pressure exerted in the brain, by varying degrees of vascular tension, may cause the most extraordinary alterations in its functional activity and capacity for function, and a cardinal point in this essay has been the attempt to show that in women exist certain fixed alterations of vascular tension, over and above those common to the physiological processes of the two sexes. But, 1st, these alterations succeed each other so gradually that the brain sustains no shock for them; 2d, the rise in tension, which presumably should affect the brain, does not occur during the menstrual hemorrhage, which is the single period covered by the question of the committee; 3d, granted that the brain is stimulated by increased vascular tension, it is certain that when any habit of susceptibility has once been established it counts in the ordinary working of the organ; 4th, the reactions of the brain to alterations of blood-pressure are proportionate not only to them, but to the degree of resistance of its own tissues. Our statistics show that 53 per cent out of two hundred and sixty-three women interrogated at hazard exhibit such a degree of resistance in their nerve tissues as to enable them to

bear with impunity the increased vascular tension of the premenstrual week. It is equally certain, however, that the reverse holds in a large number of cases, though by no means in the 46 per cent of our tables. It is when the nutrition, and hence the vital resistance, of the nerve centers has been diminished that the rise in tension irritates nerve elements, and all degrees of nervous erethism may be produced, from ill temper to insanity. Berthier has collected a large number of cases where the approach of menstruation was heralded by various forms of neurotic disorder—excitement, epilepsy, hysteria, mania. But his list is burdened with many cases, quite irrelevant, where the outbreak of the nervous disease coincided with a suppression of menstruation, and hence was due either to the abrupt pathological increase of vascular tension or to the same disorder of nutrition as had caused the amenorrhea. Similarly, all treatises on nervous or mental disorders are crowded with cases showing that the menstrual periods are frequently preceded by exacerbations of the disease. However numerous, or however fantastic or various in character, they all serve to illustrate only one fact, namely, that when the nutrition of the brain centers is weakened, increase of blood-pressure will cause various degrees of irritation of the elements of which their tissues are composed. These pathological causes are of no value for our purpose, except as indicating the rhythmic increase of vascular tension upon which we have insisted; and they do not in the least show that menstruation, *per se,* constitutes any temporary predisposition to either hysteria or insanity. The real predisposition to all the grand neuroses lies, not in the peripheric conditions that may become exciting causes of their development, but in the original structure of the central nervous organs, without which these peripheric irritations could have no effect.

From what we have said of the peculiar mode of nutrition that obtains in the female economy, it becomes evident why women are so very much more frequently hysterical. If the physiological denutrition of the muscles be extended to the nerve centers, we have the atonic hysteria of towns; if the supplemental wave of nutrition be formed at the expense of the nerve centers instead of the muscles, we have the muscular hysteria of peasants. It is indeed primarily owing to the necessities of reproductive nutrition that women are more liable to hysteria, and to anemia, than men. But until the anatomical basis of these diseases shall have been raised, the "reproductive demand" can only be considered a "cause" of them, in the same sense in which birth may be said to cause death. In a

word, whenever women exhibit mental irritability and consequent weakness, at or before menstruation, it is a proof that the resistance of their nerve centers is weakened below the normal standard, sometimes congenitally and by inheritance. If the impairment be sufficiently extensive, mental action will be rendered unreliable, and the woman be subjected therefore to periods of temporary incapacity of varying degrees. In certain such cases the attempt to force mental action would interfere still further with the nutrition of nerve tissues, and hence aggravate the original difficulty. In these cases rest is desirable during whatever period of the month the nervous excitement may be experienced, but this will be more frequently through the two or three days preceding the hemorrhage than at the time of the flow. In slighter cases rest is unnecessary; in those more severe it is in itself useless—other measures must be taken in order to cure the disease.

In those cases of congenital hysteria where a cure cannot be effected, it is evident that the women are permanently unfit to bear severe responsibilities, or to undergo mental strain. Of their action it must be said, as we have said in regard to muscular action in weak subjects, that at any time it tends to exhaust the small reserve of force accumulated by the feeble nutritive capacity of the tissues. Thus, if beyond the individual capacity at an intermenstrual period, it will inflict an injury that cannot be repaired by rest during menstruation. In regard to women other than those considered in the above classes, we can find no reason to suppose that menstrual rest is desirable or necessary. Wherever it is so, it will be taken no really mental work will ever be performed at a time that the brain is really unable to perform it. Whatever is done at such times should be classed with work involving muscular effort and the strain of fixed attention. Only in regard to schoolgirls and young persons called upon to perform mental work to order (without spontaneity) does the question really practically apply. To these must be applied all that has been said in the foregoing paragraph, with one addition, that in adolescence, and during the first years that the reproductive wave of nutrition is being formed, mental work exacted in excess of the capacity of the individual may seriously derange the nutrition. In grading the work, therefore, it must be proportioned "to the conscious ease with which it can be performed;" to the known standard of nutrition of the nerve centers, in the individual case, especially as measured by predisposition to hysteria, chorea, insanity, or consumption; to the coincident maintenance of proper hygienic

conditions, especially in regard to food, air, and exercise. The regulations for menstruation, as said, are to be entirely individual, and in accordance with what has been detailed in speaking of the mental work of adult women. Any modifications which may be demanded in female labor are in relation, not with the menstrual flow, nor with "nervous excitability" which may be occasioned by it in pathological cases, but with the nutritive provision for reproduction, of which the flow is only one indication. It is to the development of a supplemental wave of nutrition, and the manner in which it intersects the waves of individual nutrition, that are due most of the peculiarities of the female organism and of its capacity, and not the mere existence of reproductive organs. Of course women do work better, and with much greater safety to health, when their work is frequently intermitted, but this is no peculiarity; those intermittences should be at short intervals and lasting a short time, not at long intervals and last longer. These periods are required at all times, and have no special reference to the menstrual flow; unfortunately it remains true, however, that in our existing social conditions about fifty per cent of women suffer more or less during menstruation, and for a large number of these when engaged in industrial pursuits or others, under the command of an employer, humanity dictates that rest from work during the period of pain be afforded as far as possible, correcting in a great measure all sources of possible trouble.

PREGNANCY FOLLOWING DOUBLE OVARIOTOMY.

BY Q. W. HUNTER, M.D., LOUISVILLE, KENTUCKY.

The physician is not infrequently asked whether pregnancy is possible in a woman whose ovaries have been completely extirpated. In the absence of mature consideration natural inference would suggest an emphatic negative answer—*i.e.*, that such an occurrence would be absolutely impossible; but investigation and observation prove that the statement must be qualified, as post-mortem examinations have developed the existence of supernumerary ovaries in a certain percentage of cases; moreover, in performing ovariotomy fragments of ovarian tissue may easily be left behind, intentionally or otherwise, which, being sufficient to permit continuance of ovarian activity (ovulation), pregnancy becomes possible, provided both Fallopian tubes be not completely extirpated, and provided further that the tubal remnant remain patulous. Thus cases are recorded

where pregnancy occurred despite the fact, according to the statement of the operator, both ovaries and both Fallopian tubes were completely removed. The most reasonable explanation of the occurrence of pregnancy under such circumstances is that the operator was mistaken as to the structures removed. In no well authenticated instance of which record can be found have there been observed more than two complete ducti Fallopii, even if there existed a supernumerary ovary, and without a patulous oviduct to provide for descent of the ovum or ascent of the spermatozoön as a matter of course impregnation could not take place. Again, an ovum which descended prior to the operation may have lingered in the uterine cavity for a sufficient length of time to be impregnated by a sperm cell from coitus practiced soon after ovariotomy had been performed.

At one time the existence of genuine supernumerary ovaries was vigorously disputed, and the older records contain no instances; but since the researches of Biegel, Puech, Thudicum, Winckler, De Sinéty, and Paladino, the presence of multiple ovaries is an incontestable fact.[1]

It was originally thought that supernumerary ovaries as well as supernumerary kidneys were simply segmentations of the normal organs and connected to them by portions of the proper substance; now, however, by the recent reports we are warranted in admitting these anomalous structures as distinct organs. It has even been suggested that it is the persistence of these ovaries that causes the menstruation of which we sometimes hear as taking place after ovariotomy.[2]

Sippel records an instance of third ovary; Mangiagalli has found a supernumerary ovary in the body of a still-born child, situated to the inner side of the normal organ. Winckel discovered a large supernumerary ovary connected to the uterus by its own ovarian ligament. Klebs found two ovaries on one side, both consisting of true ovarian tissue, and connected by a band three-fifths inch long.[3]

The Fallopian tubes are rarely absent on either side, although Blasius reports an instance of deficient oviducts. Blot reports a case of atrophy, or rather rudimentary state of one of the ovaries, with absence of the tube on that side, in a woman of forty.[4]

[1]From Anomalies and Curiosities of Medicine; Gould and Pyle. W. B. Saunders & Co., Philadelphia, Pa.

[2]Gould and Pyle, *loc. cit.*

[3]Gould and Pyle, *loc. cit.*

[4]Gould and Pyle, *loc. cit.*

Doran records an instance of multiple Fallopian tubes, and Richard says several varieties are noticed. These tubes are often found fused or adherent to the ovary or to the uterus; but Fabricus describes the symphysis of the Fallopian tube with the rectum.[5]

The occurrence of menstruation after removal of the uterus or ovaries is frequently reported. Storer, Clay, Tait, and the British and Foreign Medico-Chirurgical Review report cases in which menstruation took place with neither uterus nor ovary. Doubtless many authentic instances like the preceding could be found to-day. Menstruation after hysterectomy and ovariotomy has been attributed to the incomplete removal of the organs in question, yet upon post-mortem examination of some cases no vestige of the functional organs in question has been found.[6]

In attempting to investigate this subject through search of medical literature similar objections and obstacles are encountered as obtain in most others of a medical or surgical character, viz., the meager information given by some authors, and the general unreliability of statistical data. Many reports which would have been invaluable had they been carefully and properly prepared must of necessity be excluded because of incompleteness and ambiguity. After a rather extensive examination of the literature the writer has been able to collect but a limited number of cases where pregnancy has followed double ovariotomy, brief abstracts of which are presented.

In the Transactions of the London Obstetrical Society, vol. xxiv, p. 231, Alban Doran reports a case of pregnancy which occurred after the removal by himself of both ovaries. In connection with his own case he found record of eight others in which a similar result followed (Baldwin). It is believed these were the first cases of the kind reported.

Pregnancy going to term with a successful delivery frequently follows the performance of ovariotomy with astonishing rapidity. Olier cites an instance of ovariotomy with pregnancy of twins three months afterward, and accouchement at term of two well-developed boys. Polaillon speaks of a pregnancy consecutive to ovariotomy, the accouchement being normal at term. Crouch reports a case of successful parturition in a patient who had previously undergone ovariotomy by a large incision. Parsons mentions a case of twin pregnancy two years after ovariotomy attended with abnormal development of one of the children.

[5] Gould and Pyle, *loc. cit.*
[6] Gould and Pyle, *loc. cit.*

Cutter speaks of a case in which a woman bore a child one year after the performance of ovariotomy in which the stump as well as the remaining ovary were cauterized. Brown relates a similar instance with successful delivery. Bixby, Harding, Walker, and Mears all report cases, and others are not at all rare. In the cases following shortly after operation, it has been suggested that they may be explained by the long retention of the ova in the uterus, deposited there prior to operation.[7]

Gould and Pyle do not state definitely whether in the cases to which they refer the ovariotomy was unilateral or bilateral, and it is presumed the original records from which their data were gathered were likewise incomplete, otherwise these authors would have been more explicit.

Schatz[8] removed a large cystic tumor of the left ovary, including the outer third of the Fallopian tube, and all the ovarian tissue that could be found. The right ovary was also diseased and was tied off by means of three silk ligatures passed between it and the broad ligament, and was cut away in such manner that a piece of ovarian tissue (at the most two centimeters broad) was left on the proximal side of the ligature. The right Fallopian tube was allowed to remain intact. The patient became pregnant and gave birth to a child five years later.

Englemann[9] reported a case in which pregnancy followed double ovariotomy. The right Fallopian tube was left *in situ,* and it would appear that vestiges of ovarian tissue were also left behind.

Sutton[10] recorded an instance similar to that of Englemann, in which pregnancy occurred after double ovariotomy. The woman subsequently became pregnant and was delivered of a child at term. (In the abstract from which these notes were taken no mention is made as to whether the Fallopian tubes were also completely extirpated, nor is it stated whether there was a possibility of ovarian tissue being left).

Robertson[11] states that he removed both ovaries, which were diseased, from a woman who afterward became pregnant and gave birth to a child. (As in the previous case no further explanation appears in the abstract).

Kossman[12] removed both ovaries from a woman with in-

[7]Gould and Pyle, *loc cit.*
[8]Quoted by Morris, *Boston Med. and Surg. Jour.,* 1901.
[9]*Loc. cit.*
[10]*Loc. cit.*
[11]*Loc. cit.*
[12]*Loc. cit.*

tense bilateral ovaritis. The operation was an anterior elytrotomy, and the tubes were left *in situ*. He was much surprised when eighteen months later he was informed that the woman was pregnant. In due time the child was born after an easy labor. The author was certain that no supernumerary ovary was present, as it happened he was especially interested in this subject, and a third ovary would hardly have escaped detection. He was not so certain, however, that in placing his ligatures and cutting away the ovaries he might not have left a small fragment of ovarian tissue in the stump. This patient gave birth to two children after removal of both ovaries.

Morris[13] reports a case where both ovaries were removed, one the seat of a cystoma, the other a hematoma, the tubes being tied off with silk close to the uterus and cut away. Menstruation began soon after the operation and continued regularly for several months. The woman later developed morning sickness, nausea, cardialgia, abdominal enlargement, and examination revealed that she was pregnant. She was delivered normally at term. Menstruation recurred soon thereafter and continued regular and normal. (No suggestion is made as to whether there existed a supernumerary ovary, but the author states that some ovarian tissue was probably left behind, which explains the occurrence of pregnancy. To the writer his explanation seems inadequate in face of the definite statement that "both tubes were tied off close to the uterus.")

Baldwin[14] removed both ovaries from a woman who was three months pregnant at time of the operation. Each ovary was the seat of a tumor about the size of a cocoanut. The cysts had become adherent, but the tumors were distinct, and each had a long but small pedicle. Because of the known fact of pregnancy care was observed to avoid manipulation of the uterus. The pedicles were ligated and the tumors removed. Recovery was prompt, and the woman was delivered at term. The author states that subsequently two additional children were born to this woman. Although it was supposed both ovaries were completely extirpated, the author admits the possibility of his having left a small amount of ovarian tissue on one side or the other outside the ligature. (It is not stated at what point the Fallopian tubes were ligated—*i.e.*, what distance from the uterus.)

[13] *Loc. cit.*

[14] J. F. Baldwin, M.D., *American Journal of Obstetrics and Diseases of Women and Children*, 1902.

Baldwin[15] also reports a case in which both tubes and ovaries were removed because of violent and persistent menorrhagia, leucorrhea, and the usual concomitant constitutional symptoms incident to such cases, of six years' duration, following miscarriage at two months. Every precaution was taken to thoroughly and completely remove both ovaries and both tubes with the intention of artificially producing the menopause. The distressing symptoms continued, as did also menstruation, and curettage of the uterus was practiced without benefit. Later the abdomen was again opened for the removal of a tender mass of tissue to the left of the uterus between the layers of the broad ligament. This mass was described as resembling ordinary ovarian tissue. Menstruation still continued, but the patient's general health was excellent.

The same author quotes Bland Sutton as stating that there is no authentic instance on record of a third ovary; he also says that Doran had observed cases in which there was present in the ovarian ligament "detached tissue containing follicles," and it was the presence of such tissue which offered the only explanation of the few cases on record in which pregnancy had followed double ovariotomy.

In this connection it may be interesting to observe that Biegel claims supernumerary ovaries have been found twenty-three times in five hundred bodies, and in a case reported by Winckel there were three ovaries and three ovarian ligaments.

In conclusion the writer begs to submit the following propositions of inquiry:

1. Admitting the fact that there be present a supernumerary ovary which is capable of performing all the functions expected of the original organs removed in double ovariotomy, if both Fallopian tubes be also completely extirpated ("tied off close to the uterus"), how would it be possible for ova liberated by the supernumerary ovary to gain entrance to the uterus to be impregnated?

2. Leaving the question of a third ovary entirely out of consideration, and granting that vestiges of ovarian tissue are left behind in performing double ovariotomy and that these remnants continue to functionate, if the Fallopian tubes have been completely removed by what means and via what route do the liberated ova reach the uterine cavity?

[15] *Loc. cit.*

THE MEDICAL AGE.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

HEREDITY IN PATHOLOGY.

Modern conceptions of the nature of heredity must sooner or later change the complexion of many pathological problems. As it is we are apt to confuse the terms hereditary and congenital as if they signified the same thing, when they do not—for instance, syphilis of the new-born is congenital but not necessarily hereditary. Heredity is that which proceeds from the internal constitution of the germinal cellule. All those characteristics which a fetus receives in the course of uterine life may be no more hereditary than are those characteristics derived from extra-uterine life. Thus it may come that there are congenital lesions that are explained as placental infections and others that are the result of germinal infection, and just as it is impossible to believe that changes occurring in a chicken's egg after it is laid can be called hereditary, so certain changes which happen to the embryo in the maternal uterus cannot be so considered.

It seems to follow therefore that a large number of the most important maladies are not hereditary. The germinal cellules seem little likely to possess the power of transmitting actual disease, but rather characteristic constitutions which represent a tendency to a particular malady, but not the malady itself. These characteristics of the germinal substance depend on variations of the germinal plasm, and the variability of this germinal plasm may determine the ulterior development of the organism. All those influences which might bring about a certain variation in the germ-plasm might also give rise to new hereditary hematological qualities.

A distinction might therefore be made between primary and secondary germinal variations, the latter being determined by hematological alterations previously acquired. It would cer-

tainly seem that cellular chemistry would be likely some day to modify materially our conceptions regarding the nature of heredity. Since the days of Weissman our notions concerning the essential nature of the processes involved have undergone complete change. The correlations to be established between these, and the newer conclusions of hematology, should be prolific of results as interesting as they will be useful.

EDITORIAL NOTES.

The Prevention of Infant Mortality.

Some years ago an establishment called "The Drop of Milk" was formed in Paris by two physicians, Drs. Farrot and Budot. The object of this institution was to see that children should receive proper nourishment during the first six months of their lives. In speaking of the institution a writer in a recent issue of the *Review of Reviews* says: "The children, mostly of the laboring classes, are brought to the institution upon stated days for examination, and the mothers receive a card of admission entitling them to a certain number of bottles of sterilized milk. This is to be given at home in accordance with the directions given by the physician at the institution. In general, the infants are left with their parents, but the conditions require that the mother bring the child regularly—first, to have it weighed, that the effect of the alimentation may be ascertained; secondly, that the mother may take part in the school of instruction; and thirdly, for the regular distribution of the milk. Infants of all classes, rich and poor, are admitted. There is a pay section, a reduced rate section, and a free section." Similar institutions might with profit be established in the poorer districts of many of our large cities where infant mortality is still too high.

Care of the Wounded in Naval Battles.

That the modern warship is so constructed as to allow very little space for the wounded in naval battles is a fact that has been often pointed out by medical officers of the navy. Owing to the limited space at their command, medical officers have had many discussions as to the best methods to pursue during engagements. A correspondent of an English contemporary shows that these difficulties have been proved in practice to be

very considerable. The chaplain of the *Variag* has informed the correspondent that during the action with the Japanese fleet the carrying away of the wounded on stretchers became impossible. Several men were shot down when carrying them, and only five wounded men altogether were brought down to the surgeon, who was below the water line; of these two were practically dead when they arrived. Of the 150 men employed on the *Variag's* upper deck during the action 28 per cent were killed and 45 per cent wounded. The wounds of many of the men were described as punctures about as large as the top of the little finger, and from one-quarter to one inch deep, but with no foreign substance in the wound and no sign of scorching. It does not appear to be known how these wounds were produced, but in other cases pieces of clothing were carried into the wounds with the projectile. The men on board the *Variag* had received instructions in first aid, and bags of bandages had been served out. The surgeon reports that some lives were saved by first aid thus given.

Sanitarium in the Arctic.

The fact that the air of the arctic regions is practically free from germs has led a number of physicians to establish a sanitarium on the shores of Lake Torne in Lapland. This is a most picturesque but isolated region. The railway connecting the sanitarium with Norway and Sweden runs through 124 miles of very sparsely settled country. It is planned to build near this most northerly sanitarium a small station for the study of biology and physics. The flora and fauna are to be studied here too, as well as meteorological and electrical phenomena. It is doubtful if the difference in the air of the arctic regions from that of warmer climates is great enough to induce invalids to make such a long journey.

The Revival of Bicycling.

This year great efforts are being put forth by the manufacturers of standard bicycles to revive the sport, which has during the past year or two been somewhat under the ban—being no longer fashionable. That bicycling in moderation is a valuable therapeutic measure is known to every medical man. Nothing can give a greater amount of exercise and fresh air than the bicycle when used with moderation. For certain conditions the bicycle is too valuable a prescription to be cast aside.

ITEMS AND NOTES.

More than a million pounds of opium are sold in Smyrna yearly.

Reports from India show that plague is greatly on the increase.

Sir Henry Thompson is dead in London, aged seventy-nine years.

The Chicago Board of Education has voted to establish medical inspection in all schools.

The Tri-State Medical Society of Iowa, Illinois, and Missouri will meet in St. Louis June 15, 16, and 17.

Bacilli and germs will form the interesting exhibit of Dr. M. Miyajima, a noted Japenese scientist, at the World's Fair.

It is announced at the navy department that it is the intention of Surgeon-General Rixey to provide a large hospital for the naval station at Charleston.

Dr. Max Einhorn's book on Diseases of the Stomach has been translated into the Japanese language. This makes the fourth language this work has appeared in.

The American Medical Association has undertaken to arrange a pathological exhibit at the World's Fair in St. Louis. It will include general pathology and bacteriology.

President Roosevelt has issued an order directing the Japanese system of wrestling to be introduced into the Naval Academy as an addition to the system of athletic training in use there.

Professor Pozzi, the famous gynecologist and editor of the *Review de Gynecologie,* will visit America this year as representative to the congress of French-speaking physicians to be held in Montreal June 28.

The First International Congress of School Hygiene was held in Nuremberg from April 4 to 9, under the honorary presidency of Prince Ludwig Ferdinand of Bavaria, M.D., Professor Griesbach of Strasburg acting as chairman.

In the London *Lancet* Dr. R. A. Lucas describes three cases in which cancer was apparently caused by the friction of the pectoralis major on the edge of the corset. Each case occurred on the right side in a woman whose occupation caused much use of the right arm.

An exchange says Vienna has opened a restaurant modeled on the successful ones in Germany, which are exclusively devoted to the task of supplying food to sick persons. They are semi-charitable undertakings, and the physicians are finding them a great aid in the treatment of patients in poor or moderate circumstances. The meals are delivered at the homes, kept warm in thermophore dishes.

According to the reports of spies, the Japanese troops in Korea have been ravaged by various diseases. One of these diseases, called "imbion," is a kind of intermittent typhus. Another, called "souda," which has not yet been studied by European doctors, produces premature senility. The patients lose their teeth, become extremely weak, and the nails are twisted back on the fingers.

The prefect of police has proposed, and the Municipal Council of Paris has approved, the introduction of certain amendments in the regulations to which public prostitutes in Paris are at present subjected. Although ostensibly somewhat more severe than those which have hitherto existed, it is considered by many people that the amendment proposed will practically amount to an abolition of the regulations altogether.

The City Council of Paris has yielded to the pressure brought to bear by the medical profession and has decreed that the most ancient part of the old Faculté de Médecine in the Rue de la Bucherie shall be set apart as a historical monument. The property, says an exchange, was bought by the city eight years ago for $60,000, but nothing further has been done. The building will need considerable restoration before it can be utilized as a museum and library, which is the present plan. Parts of some of the buildings date from 1369, and other parts from 1499.

An exchange says that a patent has been issued for a process discovered by Dr. George T. Moore of the Department of Agriculture for the production of bacterial cultures employed in inoculating soils for the successful cultivation of clovers of all kinds, alfalfa, soy beans, cow peas, and many other similar members

of the legume family. The patent is given to the people of the United States forever in effect, the object being to forestall any effort to patent such a process, and by that means circumscribe the efforts of farmers to improve their soils by raising leguminous crops.

An exchange says: "As the anthropoid apes almost inevitably succumb rapidly to tuberculosis when imported into Europe, a project has been formed to seek them in their native haunts to carry on the research in regard to their inoculation with syphilis. An expert bacteriologist will be sent to Borneo or Sumatra with facilities for the search for an efficient antitoxin serum against syphilis, utilizing these apes for the subjects, if sufficient funds can be raised for the purpose. Metchnikoff of Paris and Lassar of Berlin are the moving spirits in the project. Each of them has had remarakble success, they think, in their inoculations of chimpanzees, as duly chronicled in these columns in the last few months."

The susceptibility of the Chinaman to the plague is proved by the fact that China and Mesopotamia were the two great world centers of the disease before India became infected. For the past forty years plague has been epidemic in the mountains of Yunnan, and there was a virulent outbreak there in 1871-1873. In 1894 there was a severe epidemic in Canton, which is said to have caused 100,000 deaths, and spread in the same year to Hong Hong. It is from Hong Kong that the infection is said to have spread to Bombay, which was just catching Calcutta at the time in the race to be premier port in India. Since then Calcutta has gone ahead, and Bombay has hopelessly receded, owing to seven years of plague.

The *Sci-I-Kwai Medical Journal*, published at Tokio by the Society for the Advancement of Medical Science in Japan, and written partly in Japanese and partly in English, contains in its February number an account of the present work of the Japan Red Cross Society in Korea, and of the casualties at the first engagement off Port Arthur. At the date of writing the Red Cross Society had taken over the British hospital at Chemulpo, and the beds, twenty-four in number, were occupied by Russians. Of the five men killed in the Port Arthur engagement three were officers, as were seven of the twenty-eight wounded taken home to Japan. Some few of the cases were compound fractures, but the majority, being caused by splinters of shell or portions of the

deck or masts, do not seem to have been very severe. One officer who was hit in the thigh is reported to be suffering, curiously enough, from lead poisoning.

QUININE, which was advanced February 16 to the extent of two cents an ounce, is likely to go still higher, in the opinion of some men in the trade, while others do not look for any further advance. A report has been circulated, says an exchange, that the Russian government is negotiating in European centers for large supplies for its army and navy. A representative of a prominent New York firm has stated that war is not likely to have any immediate effect upon prices of quinine. The soldiers now in the field for the most part were in military service before hostilities began, and were consumers of drugs. The exposure of men to campaign hardships may call for the use of somewhat larger quantities of the drug, but this additional amount will have little influence on the market.

THE Bulletin of Chicago's Health Department for the week ended March 26 says: "A number of rabid dogs have been killed within the last few weeks. The Department advises that the public should appreciate the importance of securing a dog that has bitten any one and keeping him alive until it is positively known whether or not he is suffering from rabies. Post-mortem examinations or animal inoculations do not always demonstrate the presence of rabies, especially in its early stages. It is best to secure the dog and watch him for a few days. If he has rabies he will usually die within a week or so. It is easy then to state positively whether the disease is rabies or not. In New York a law passed in 1902 requires all dogs that appear to be suffering from rabies, or that have bitten any one, to be kept under observation ten days. If one is bitten by a dog, whether the animal is known to be rabid or not, the Pasteur treatment should be begun immediately, because although symptoms may develop in three or four days, six weeks is the usual time. If the dog does not die of rabies within ten days, it will not be necessary to continue, and no harm will have been done, because this treatment is absolutely harmless. The present law requiring the muzzling of all dogs during the entire year is one that should be strictly enforced, as shown by the English success in exterminating rabies and by the Berlin experience. No case of rabies has been known in the German capital since 1873, when a law was passed requiring the compulsory muzzling of all dogs during the entire year."

NEW PUBLICATIONS.

IMMUNE SERA.

An introduction to the study of the essential theories of immunity prevailing at the present day is afforded by the lecture of Wassermann delivered at the University of Berlin in 1903. A concise exposition of the subject of serum diagnosis and therapy was not possible of attainment until the present translation of Wassermann's lectures was attempted. This little work affords the reader an excellent opportunity to familiarize himself with the theories of Ehrlich and Morgenroth, which are to-day playing so important a part in modern medicine. These lectures are exceedingly interesting and will well repay perusal.

Immune Sera, Hemolysins, Cytotoxins, and Precipitins. By Prof. A. Wassermann. New York: John Wiley & Sons.

THE INTERNATIONAL MEDICAL ANNUAL.

The twenty-second issue of this interesting annual represents much careful observation, and wise selection and collation of medical facts. Close revision has kept the matter presented within convenient bounds. The annual is one of the best that seeks for professional recognition, and those who had become familiar with its advantages will not be slow to render praise for the admirable manner in which the various editors have presented the main facts of medical progress.

The International Medical Annual for 1904. Price $3.00. New York: E. B. Treat & Co.

COLITIS.

The profession will welcome the appearance of another of Dr. Von Noorden's admirable studies in the disorders of nutrition. The last monograph concerns itself with membranous catarrh of the intestines, and is as full of suggestiveness as the author's previous essays.

Clinical Treatises on the Pathology and Therapy of Diseases and Disorders of Metabolism and Nutrition. By Carl Von Noorden. Part III: Colica Mucosa. New York: E. B. Treat & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Hemostasis in Hepatic Surgery.

I. Gualdrin (*British Medical Journal,* March 26, 1904) discussing the various methods for arresting hemorrhage in the liver fluids says that they may all be reduced to (1) simple suture; (2) intrahepatic ligature; (3) pegged sutures; (4) thermocautery; (5) superheated steam; (6) plugged with gelatin, fibrin, decalcified bone, gauze, epiploön, and intestinal parietes; (7) tamponment. Each method is carefully discussed and its merits and demerits pointed out. In wounds of the liver, where prompt intervention is necessary, the author recommends plugging with epiploön or gauze—simple suture may sometimes give good results in these cases. He records one case where epiploön was used with good results, but some months later a second laparotomy had to be performed for pyloric stenosis due to the formation of bands; after these were freed the patient remained uninterruptedly well. The hepatic scar was sound. Adrenalin is a valuable additional hemostatic. The author has carried out a series of experiments with parenchymatous injection of adrenalin which led him to assert that it may be safely trusted as a hemostatic as far as the small vessels are concerned. If secondary vasodilatation occurs it comes on so long after the vasoconstriction that there is little fear of its causing hemorrhage. The larger vessels would, however, need tying as before.

Interosseous Blood-vessels (Arterial) and Their Relation to the Etiology of Bone Disease.

At the recent meeting of the German Surgical Congress, Dr. Lexer, of Berlin (*American Medicine,* April 30, 1904), presented an interesting paper under this title.

Lexer first referred to his former report, made in the congress of the preceding year, principally upon investigations of the interosseous arterial vessels of the bones of the new-born. During the past year the investigations were extended, including those of children, young adults, and advanced age. The investigations

were principally anatomic in character. He used for injection mercury suspended in oil of turpentine, the injection being carried to a point where the injected vessels were plainly visible beneath the raised peritoneum. Roentgen ray pictures then were taken, the injected vessels standing out distinctly. He found the picture given by the interosseous vessels to vary in relation to the age of the bone, particularly in the number and anastomosing of the metaphysic vessels. In relation to the age of the bone there was a decrease in number as well as the anastomosis with the diaphyseal arteries. The same condition was found to be present in short bones, with the exception that they did not have the special locations or districts of blood-vessels. He holds that the free anastomosis of the metaphysic interosseous arteries plays an important rôle in the young in the location of infection through the blood channel, especially in osteomyelitis, tuberculosis, metastatic tumors, and parasitic infection. He also includes through its mechanical influence the lesion caused by lodgment of emboli. He considers that this theory is upheld clinically, as the above diseases are comparatively rare in older bones. In the evening session he gave a lantern exhibit of his preparations, showing about forty examples.

Chloroform and Oxygen Anesthesia.

At a recent meeting of the Paris Academy of Medicine, M. Kirmisson (*Lancet*, April 16, 1904) gave an account of his experience in the use of chloroform mixed with oxygen as an anesthetic, being a revival of a method which had been formerly tried by Paul Bert upon some patients under the care of Péan. M. Kirmisson uses Rode's apparatus, and gives a mixture of vaporized chloroform and oxygen in the proportion of from two to three grammes of the former with from three to four liters of the latter. M. Kirmisson's experience of the method comprises 229 cases of anesthesia in children aged from six months to fifteen years. No untoward effects were observed. The anesthetic sleep is perhaps rather longer in coming on than with chloroform alone, but on the other hand the period of excitement is absent and vomiting is very rare. By this method M. Kirmisson has kept a patient anesthetized during an operation lasting fifty-two minutes with only 16 grammes of chloroform. He considers that the method will find its principal application in abdominal surgery and in gynecology, where operations are likely to be pro-

longed. The use of oxygen causes a slight increase in the expense of administration compared with that of chloroform alone, but this is compensated by the saving in the amount of chloroform used.

When and How Shall We Operate for Obstructing Hypertrophy of the Prostate Gland?

Paul Thorndike (*Medical News,* April 23, 1904) says the catheter has as wide a range of usefulness as it ever had, in the palliation of obstructing prostatic hypertrophy. The various operation procedures at present at our command are to be resorted to, with the exception of certain small classes of cases, after the catheter has ceased to palliate. The time for this operative interference is at the moment when the catheter has ceased to palliate, and not after months or years of further and unavailing struggle to make it do so. The more radical operation of enucleation on the one hand, and the Bottini operation with its various modifications on the other, are not procedures of the same kind, do not have the same object in view, and are in no sense to be weighed in the balance, the one class against the other. They should rather be contrasted, the one class as radical operations aiming at a cure, and the other as efficient palliative procedures, each having its own distinct indications for its appropriate use.

Minor Surgical Lesions.

E. A. Codman (*Boston Medical and Surgical Journal,* April 7, 1904) discusses the following lesions: (*A*) Wrist-joint: (1) Fractures of the scaphoid bone. (2) Dislocation of the semilunar bone. (3) The diagnosis between fracture of the scaphoid bone and early tuberculosis of the wrist; rheumatoid and osteoid arthritis and tenosynovitis of the tendons of the thumb and long extensors of the wrist. (*B*) Shoulder-joint: (1) Fractures, especially those of the greater and lesser tuberosities, and of the facets of insertion of the short rotators of the humerus. (2) Affections of the various bursæ. (*C*) Ankle-joint: (1) Impacted fractures of the os calcis. (2) Oblique fissure of the external malleolus.

Codman says that ecchymosis and accurately localized tenderness are often good evidence of the presence of fracture, where no crepitus, deformity, or abnormal mobility can be obtained.

A Peculiar Case of Peritonitis.

Lorenz (*Wiener klin. Wochenschrift,* No. 14, 1904) reports a case of diffuse peritonitis in a 3½-year-old boy the cause of which could not be demonstrated by operation. The post-mortem showed that through an excoriation of the little toe infection of the inguinal lymph glands had taken place, causing them to break down and resulting in a retroperitoneal phlegmon, which led to a diffuse peritonitis. The diagnosis in this case was appendicitis.

Hemorrhage After Tonsillotomy.

H. Jarecky (*Medical Record,* April 30, 1904) says that troublesome hemorrhages occur in children. They also happen frequently in adults, in proportion to the number operated on. In case of bleeding use a good light and clean the parts to ascertain the cause. Use morphine if necessary to quiet the patient. The writer concludes by saying: "Never operate without being prepared to cope with a hemorrhage."

MEDICINE.

Medicine an Exact Science: Query.

Joseph Clements (*American Medicine,* April 30, 1904) says that diseases in their various grades—simple and complex—are a congeries of organic processes. Physiologic phenomena are such likewise—classic and of the same nature and character as the operative force. Pathologic processes are unique and classic, having orderly and progressive grades and sequences. Thus pathologic conditions and processes are abnormal physiologic phenomena, further to be defined as subnormal and supernormal, in endless variety of manifestation.

It is the province of medical science and the sphere of its art to acquire knowledge of the nature and character and cause of these departures from the normal, and to manipulate and control these phenomena, guiding them back or on to normal conditions.

In doing this the various causes and conditions giving rise to or provoking and aggravating these complex phenomena, and having their part and place in the drama of disease, are to be given due consideration, and to be dealt with in modification of the erratic processes, but the burden of therapeutic interference

is in the manipulation of the vital or protoplasmic processes in progress of enactment. Bacteriologic experiment and research in elucidation of the complexity of protoplasmic activities in disease may be a royal handmaid in the most difficult and most complicated undertaking ever essayed—the manipulation of the vital processes, or the handling of life. No "playing with life" in this, on the part of one knowing what he is about. The matters to be handled are "infinitely little" (Trowbridge). The phenomena are effected "in centers that are central, and yet more central" (Beale), and where only the light of thought may enter and observe, for what eye has seen that wonder expressed in disturbed protoplasmic equilibrium, with vitalization, or confer and transfer of life, with its properties and potentialities in multiplex variety, its completed phenomena being metabolism and construction of the anatomic unit, the precursor or harbinger and pledge of organic evolution? To manipulate and modify these life processes, to stimulate and hasten, to check and hold in abeyance, or obliterate, to guide and turn protoplasmic forces and activities into other directions and channels, and bring like a runaway steed into calm and usual motion and service, is art and skill based upon science first and foremost and most exact, and a triumph second only to that which designed and originated the sublime phenomenon in its beginning.

The Contagiousness of Icterus.

S. Costa (*British Medical Journal,* April 16, 1904) relates the history of an epidemic of icterus in which he is convinced that the disease spread by contact. The epidemic occurred in a battalion of infantry, consisting of six companies. In all, from July 7 to January 24, 77 cases of jaundice were treated. The disease was mild in form, and many cases occurred in which the patients did not report themselves sick. The ordinary symptoms of epidemic icterus were noted—discoloration of the skin, increase of urinary pigment, vomiting, and occasionally clay-colored stools. The average duration of the cases was about fifteen days. The troops were operating in a hilly country, where malaria was unknown, and none of the civilian population was known to have suffered from jaundice. Until toward the end of the epidemic the recruits and young soldiers escaped, only the old soldiers being attacked. The recruits were separated from the regular men. The six companies, being engaged in maneuvers, were constantly being moved, and as each was moved near to a

company already infected, the jaundice spread to it. At first the water-supply of the camp in which the main body of the troops was stationed was suspected, and the men were prevented drinking the water, and served with tea at meal-times. This did not check the spread of the epidemic, and cases occurred in the neighboring camp, which had a different and irreproachable water-supply. In the course of the operations there was only one stretch of country which all six companies had traversed. Cases of jaundice occurred in all the companies, but the first case of the epidemic was found in a company which did not perform this journey till a week after the man attacked had been sent to hospital. The two last patients were young soldiers who did not join the battalion till November, after the maneuvers were over. They were not affected until twenty-four days after the case immediately preceding. Their illness was slight. Costa believes that this epidemic proves the contagiousness of icterus.

House Infection of Tuberculosis.

L. F. Flick (*Maryland Medical Journal,* February, 1904) says that tuberculosis is a disease due to parasitic growths of a microörganism on the tissues of a human being or animal. Being due to organic life, it is communicable. Tuberculosis is contagious. The contagion of tuberculosis is different from the contagion of acute contagious diseases, however. It is slow and can be avoided easily in the presence of a consumptive, whilst that of acutely contagious disease is rapid and cannot be avoided in the presence of those who have such disease.

The contagion of tuberculosis is closely associated with the house. An enclosure of some kind is necessary to make it effective. The house is the granary of the tubercle bacillus. It is the place in which tuberculous matter is kept vital until the bacillus can find a new host. Out-of-doors tubercular matter becomes devitalized in a short time through water, light, and air. Enough cannot accumulate in a vital state to create a contagious environment. Every one has some resisting power to tuberculosis; some have more than others. Practically all have sufficient resisting power to withstand occasional exposure to tuberculosis and exposure out-of-doors. For an implantation of tuberculosis prolonged intimate exposure and an intensely contagious environment is necessary to overcome resisting power. This is had in the home and the workshop. The house prepares soil for the tubercle bacillus.

Tuberculosis in Different Species.

M. Màffucci (*British Medical Journal,* March 26, 1904) described at the recent Congress of the Italian Society of Pathology his experiments with tubercle bacilli of various origin, from which he concludes: (1) The bacillus of bovine tuberculosis is very strongly pathogenic to oxen. (2) The bacillus of human tuberculosis determines in oxen a transitory lesion which heals, generating trophic disturbances which may slowly disappear. (3) Oxen are capable of becoming habituated to strong doses of virulent bacilli of human tuberculosis injected into the veins. (4) Tuberculous products from the human cadaver, when inoculated under the skin of a calf, cause a lesion which remains local and undergoes cure, but when the products of bovine tuberculosis are inoculated under the skin of a calf the lesion is progressive and spreads to other parts of the organism. (5) Calves into whose veins the bacilli of human tuberculosis have been injected present after fifty days gray miliary tubercles undergoing retrogressive changes throughout the lungs; but after eight months show no trace of infection. (6) The bacillus of human tuberculosis may remain alive in the tissues of a calf if the abscess which is formed becomes encapsulated. (7) The tuberculous products of chickens are very toxic to calves if injected into their veins. (8) Sheep and oxen show tuberculosis by giving a positive reaction to tuberculin prepared from the bacilli of human tuberculosis. (9) Sheep resist human tuberculosis less than calves if the bacilli are injected into the veins; they may recover from the injections of human bacilli and afterward die of tuberculous septicemia when treated with bacilli from chicken tuberculosis or bovine tuberculosis. (10) Oxen are capable of being made refractory to tuberculosis by preventive treatment with virulent cultures of human tuberculosis.

Routine Methods of Detecting and Differentiating Reducing Agents Found in Urine.

W. G. Doern (*Journal of the American Medical Association,* April 30, 1904) says the copper and bismuth tests are reliable negative tests, but a positive reaction must be confirmed. Trommer's test is not always reliable. Fehling's solution is not permanent. Haines's solution is the most convenient of all copper solutions, and is reliable if the technique given is followed.

Bismuth solutions are not reduced by the alkaptons, and serve to differentiate them from other reducing agents.

The fermentation test is in itself not characteristic nor is it very delicate, but it serves to differentiate lactose, glycuronic acid, hippuric acid, the alkaptons and the pentoses, which do not ferment, from levulose and dextrose.

If the completely fermented urine should still reduce the copper solution, it indicates the presence of glycuronic acid or alkaptons.

Phenylhydrazin test is good, but the technique is complicated.

Pentoses may be recognized by the orcin test.

Alkaptons are recognized by the characteristic ozonized alkali test.

Finally we can differentiate dextrose from levulose by a polariscopic examination.

The Intracellular Toxin of Bacillus Pyocyaneus.

The bacillus pyocyaneus, according to D. A. McIntyre (*Journal of the American Medical Association,* April 23, 1904), contains an intracellular toxin. This toxin cannot be extracted from the cell by physiologic salt solution. It is in part extracted by dilute sulphuric acid. Heat to 120° C. in the autoclave continued for thirty minutes only slightly diminishes the toxicity of the cell substance.

The cell substance of bacillus pyocyaneus contains a hemolysin, which may be extracted from the cell, either in the fresh state or after treatment with alcohol and ether by physiologic salt solution.

The minimum lethal dose of the cellular toxin is for guinea-pigs, when given intraperitoneally, about 1 part of the cell substance to 50,000 parts of body weight.

When injected subcutaneously in guinea-pigs in the proportion of 1 part of the cell substance to 10,000 parts of body weight or less no permanent ill effect results.

Subcutaneous injections do not give immunity to subsequent intraperitoneal injections.

The Pathogenesis of Jaundice.

Ugolini and Mazzacchi (*Il Policlinico; British Medical Journal,* April 16, 1904) record the results of twelve experiments on dogs, whose bile and thoracic ducts they tied, coming to the conclusion that biliary absorption occurs through each set of vessels. They found that whenever the ductus choledochus was ligatured,

whether the thoracic duct was tied or not, jaundice supervened. In many experiments it was found that the bile appeared in the lymphatics before it could be detected in the blood, but it should be remembered that the dilution in the blood is much greater and the detection of small quantities of bile not easy. That absorption takes place by the blood-vessels only when the thoracic duct is closed is disproved by certain experiments made by the authors, for jaundice occurred equally well when this duct was slit so as to make a fistula instead of being ligatured. If a double intracellular reticulum exists, as was described recently, but which the authors were unable to recognize, the problem of biliary absorption will be much simplified. Absorption of bile may take place in the interlobular spaces, or within the lobule by the passage of the bile from the intercellular biliary ducts into the lymphatic vessels, or again it may be transferred to the small canaliculi which carry the glycogen and urea into the blood. Probably what determines which of these three modes of absorption should take place is the nature and duration of the obstruction.

Reflexes and Sensory Phenomena.

In healthy young men, according to Theo. Diller (*American Medicine*, April 23, 1904), the knee-jerks vary greatly in their range and rapidity, being often difficult to elicit. The Achilles jerk is constantly present, varies much less than does the knee-jerk, and is seldom difficult to elicit. The conjunctival reflex is extremely variable, being absent or faintly present in fifty per cent of individuals examined. The same may be said of the pharyngeal reflex. The pupils are equal. The pupils vary greatly in size, ranging from 2 mm. to 4.5 mm. and averaging 2.76 mm. in the light. The pupilary light reflex varies greatly, the range of the excursion being from scant 0.5 to 3 mm. and the average 1.39 mm.

In the accommodation reflex the range of the pupilary excursion also varies greatly and is occasionally absent, the average range being 0.967 mm.

Convergence is more or less defective in fully half the cases.

The eye-grounds exhibit more or less deep or extensive cupping of the optic nerve with gray stippling in about an eighth of the cases; and in a few of these the appearance is suggestive of beginning gray atrophy.

The stereognostic appreciation is uniformly keen.

The same may be said of the muscular and spacing senses.

Etiology of Emphysematous Phlegmon.

Ludwig (*Centralblatt f. Bakteriologie,* No. 6, 1903) in his researches finds that the bacillus aerogenesis capsulatus, bacillus phlegmones emphysematosæ, and the granulobacillus butyricus are identical. He also finds that the gas bacillus can independently and without the aid of other bacteria produce necrosis, inflammation, and pus. This bacillus is usually found in loose connective tissue and in glycogenic organs, and the author can find no basis for assuming that albuminous bodies may be fermented without the addition of carbohydrates.

THERAPEUTICS.

The Treatment of Obesity.

P. Groco (*Medical Record,* April 30, 1904) gives the following rules for the treatment of obesity: He considers obesity to be the result of an excess of ingesta or of a derangement of the metabolism of the body. The clinician must first ascertain the cause of the accumulation of fat, then regulate the income and outgo so that they are equalized, and combat the morbid effects of the condition. As a general rule the liquids taken at meals should be reduced, and liquids taken two hours after the meal. Some cases, however, do not get along well with this reduction of fluids, but gastric, intestinal, and renal symptoms ensue. In cases in which the urine is habitually concentrated and has deposits of urates or uric acid, a dry diet is not well borne. In such cases it is best to allow frequent small meals, four or five in the twenty-four hours, with liquids taken two hours after each meal. The diet is reduced until the weight of the patient falls to the desired figure, and then kept at the requisite amount to maintain a normal weight and prevent a renewed increase. There should be a great increase in muscular activity by walking, riding, cycling, sports, or gymnastics. General and local massage when the abdomen is enlarged is very useful. Hydrotherapeutic measures, cold and heat, are important, as well as carbonic acid gas baths. Patients should sleep very moderately, and should not do excessive mental work. Inhalations of oxygen may be used with advantage. The author does not advocate the use of purgatives, alkalies, or other drugs in reducing weight, except as the conditions of health would naturally demand them, as in case of the need of laxatives, iron in anemic and alkalies in gouty cases.

Good Feeding in Infancy.

A. B. Keyes (*Medical Record,* April 23, 1904) has reviewed what good feeding in infancy prevents: (1) It lessens the number of cases and mortality from acute intestinal and infectious diseases. (2) It avoids the distressing condition known as English disease, or rickets, from which a large number of children die annually, and if they survive the disease are often deformed for life. (3) A large number of the cases of tuberculosis, especially of the bone, in young children are predisposed to the disease by the catarrhal conditions of the intestines, in which conditions they take into the circulation the bacillus of tuberculosis, which the imperfect inner lining of the blood-vessels of the long bones makes a good resting-place, with its resultant chronic invalidism, and later frequent implication of the lungs, and death. (4) Proper infant feeding, even if these first three are escaped, is a necessity for the good health and perhaps even the formation of the character of the child that later will become the man, and thus the preservation of the health and character of the American-born man.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

The Coagulation Time of the Blood in Pregnant and Puerperal Women Suffering from Albuminuria and Eclampsia.

Carstairs Douglas (*British Medical Journal,* March 26, 1904) says the volume of the blood is increased in pregnancy. In six non-pregnant animals it was 7.8 per cent of the body weight, while in ten similar animals, but pregnant, it was 9 per cent (Spiegelberg and Geschleiden).

There is sufficient evidence from recent work to indicate that the old idea of poverty of hemoglobin in pregnancy is untenable. Fehling, Winckelmann, and Reihl (quoted by Buist) all found that in the majority of pregnant women the hemoglobin was fully up to the average, while in a considerable number of cases it surpassed it. Schroeder actually found, out of thirty-four women examined during pregnancy, that over 70 per cent of them gained in hemoglobin.

Observations recently carried out point to the fact that there

is not nearly so great a diminution in the red cells as is frequently stated in text-books; and, indeed, the ordinary pregnant woman has not much less than her full complement of erythrocytes. Bernhardt, for example, in healthy non-pregnant women found the average red cell count to be 4,450,000 per cubic millimeter, while in 32 pregnant women examined antepartum he had no average under 4,500,000, and even postpartum the figures did not fall below 4,360,000. Henderson, working in this hospital, in forty-five cases (during and just after delivery) obtained counts varying from 2,260,000 to 5,000,000. In the Edinburgh Maternity Hospital, Elder and Hutchinson obtained very similar figures from sixteen women at parturition, their average being 3,978,000.

The leucocytes are normally increased in pregnancy, especially toward the latter months. Henderson in thirty-six normal cases obtained at term figures ranging from a little over 10,000 to 36,600 per cubic millimeter, the average being 21,365. Elder and Hutchinson give figures varying between 8000 and 25,000, with an average of 14,500, which is 33 per cent lower than Henderson's.

The density of the blood was studied a good many years ago by Nasse, who found it always somewhat lowered in pregnancy, though not to any great extent. It receded most from the normal between the sixth and eighth months. The fibrin he found increased by nearly four per cent. The water and fat he also found increased, and the salts of the blood diminished. Nasse's observations would bear repetition.

The coagulation time in normal pregnant and puerperal women has hardly been worked at at all.

Fibromata of the Uterine Wall.

D. Faehnrich (*British Journal of Gynecology*, February, 1904) after a laborious and far-reaching review of cognate literature has described seven instances of pure fibromata of the abdominal walls, the largest of which weighed 4500 grammes. Two of the tumors originated in the anterior and one in the posterior sheath of the rectus, one in the superficial fascia, one in the internal oblique muscle, and two in the deep fascia. He considers their development to be due most probably to muscular rupture from injury or infection, and that their growth is promoted by gestation. All the seven women were operated upon and were discharged cured.

Isolated Rupture of the Sphincter Ani Externum in Labor.

V. V. Rosenfeld (*Centralbl. f. Gyn.,* No. 4, 1904) reports as analogous to the rupture of the levator ani without laceration of the skin or mucous membrane, two cases in which the rupture was confined to the fibers of the external sphincter of the bowel. The consequences were cystocele, prolapse of the posterior vaginal wall, and relative incontinence of feces. In each case the cystocele was repaired by Gersuny's operation. Catching up the bladder, the ends of the sphincter were then exposed and stitched together, and the proceeding concluded with typical posterior colporrhaphy. Both cases were cured.

Analgesia in Obstetrics.

T. Steinbuechel (*Brit. Gyn. Jour.,* March, 1904) recommends the use of morphine and scopolamine hypodermically in doses of 0.01 gramme of the former and from 0.0003 to 0.0004 gramme of the latter—that is to say, 0.15 of a grain of morphine and from 0.0045 to .006 of a grain of scopolamine. By this treatment he declares that the pain and suffering of the woman is much lessened, though her consciousness is not affected nor uterine activity diminished.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
Attending Neurologist to Harper Hospital.

Therapeutics of Insanity.

A paper in the *Journal of the American Medical Association* of April 16, 1904, is interesting both for its practical wisdom and from the fact that it comes from the pen of one who has had long experience in the realm whereof he writes, and who has unfortunately died since his last paper was written. We make the following excerpts from his article as well worthy of being reprinted:

"Of stimulating or tonic medicines, as now administered in the treatment of the insane, but little need be said. So long as given in such quantities as do not offend the stomach or impair digestion, they are practically harmless, if not really helpful."

"Purgative eliminating medicines are generally useful in the treatment of the insane, as they are in the treatment of other

classes of persons suffering derangement of physiologic functions."

"Hygienic therapeutics are in accordance with the suggestions of common sense or human experience, and modern science as well. The primary necessities of all living beings are: air, food, water, and, if human, light, warmth, and exercise."

"Properly located and constructed public and private hospitals for the insane come as near to supplying all demands indicated as is practicable. Of these prime necessities the value of air and water, as to both quantity and quality, as related to health, is more likely to be underestimated than is that of less important items."

"Keeping one's skin clean is a decent and goodly thing to do. Our skins are so constructed, however, that even 'dirt diseases' seldom effect entrance to vital organs through them. Mucous membrane—skin deprived of armor, its 'coat of mail'—is at all times vulnerable. Keep it clean. Pure water is nature's solvent and detergent, and should be employed as such with great confidence."

"Occupation, manual labor, so much insisted on as hygienically beneficial to the insane, is commendable as both useful and economical. The same may be said of amusements. Neither the maniacal nor the morbidly melancholy can be amused successfully. Nor have I ever known a person suffering from acute mania or melancholia benefited by travel, on either land or water."

"Disciplinary therapeutics, in the treatment of the insane, is second only in importance to hygienic helps. Loss of self-control and loss of moral sensibility are characteristics of insanity. To meet necessities incidental to such conditions, more or less restraint is essential to the welfare of the insane, and that of others entitled to protection from them."

"There are three methods of restraining the insane. One is by mechanical appliances; another by the administration of paralyzing medicine; and a third by moral influences. Of these methods, moral influences are sufficient for by far the greater number."

"There are many other factors in the problem, but none so conspicuous or so suggestive. If, as is now believed, much insanity is attributable to autointoxication, what should be rationally expected from repeated and profound intoxication of persons already impaired, mentally, by chemicals of obliterating consciousness by paralyzing its mechanism?"

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ORIGINAL CONTRIBUTIONS.

ASTHMA AND HAY-FEVER: THE HYPOTHESIS OF IDENTITY.

BY HENRY B. HOLLEN, PH.G., M.D., DETROIT, MICH.

Frequent allusions respecting the similarity of certain features belonging to two respiratory neuroses, bronchial asthma and hay-fever, have appeared in the literature, but there is a notable absence of reference to the identity of the processes present in these affections. The general non-recognition of this particular phase is easily attributable to the tenacity with which the so-called spasmodic theory, regarding the causation of the former disorder, still lingers in the mind of the physician and retains its place in the current text-books; this to the exclusion of other and infinitely more plausible theories.

In referring to hay-fever, or hay-asthma, it is more convenient to employ the term "vasomotor rhinitis," for the reason that it correctly defines the nature of the disease without imposing upon itself the limitation implied by the designation of the causative agent. In the same manner asthma would better be referred to as "vasomotor bronchitis," the propriety of which must be apparent to the thinking clinician, and which will be pointed out in the succeeding paragraphs.

It is difficult to understand why the spasmodic theory, as pertaining to the nature of vasomotor bronchitis, has not long ago fallen into disrepute, since it fails utterly to harmonize with, or to account for, the symptoms presented in the course of a paroxysm. There is no doubt regarding the neurotic tendency as the base on which the affection is grafted. Happily this is one factor in which there exists a coincidence of opinion. With this in mind it will then be recalled that the ancient assertions, as reiterated and elaborated by Salter, are essentially as follows: (1) The phenomena of asthma, distressing sensation and

demand for extraordinary respiratory efforts, immediately depend upon spasmodic contraction of the cells of unstriped muscular fiber in the bronchial tubes. (2) The phenomena are excitomotor or reflex actions. (3) The extent to which the nervous system is involved differs much in different cases, being in some restricted to the nervous apparatus of the air-passages themselves. (4) In a large number of cases the pneumogastric, both gastric and pulmonary portions, is the seat of the disease. (5) In many cases the nervous circuit involves other nerves besides the pneumogastric. (6) Still other cases may be due to the central irritation, and in a certain proportion the irritation is humoral.

It will be seen that the bronchial spasm theory is set forth and maintained as a satisfactory explanation of the asthmatic process. "An attack of asthma, as we know, consists in the occurrence of more or less well marked symptoms of oppression of breathing, with a certain amount of periodicity, coming on suddenly, generally at night, and lasting for several hours, the dyspnea obtaining both during inspiration and expiration, while the cessation of the attack is accompanied by more or less profuse serous and sero-mucous expectoration."

The old theory would explain this dyspnea, which is the prominent feature of the disorder, on the ground that it is due wholly to contraction of the muscular fibers contained in the bronchial tubes. In refutation of this view, as being irreconcilable with certain demonstrated clinical facts, Bosworth asks the following questions:

1. If the paroxysm is due to muscular spasm, why should the attack occur, in most instances, only at night?

2. Why should it be affected by changes in temperature?

3. Why should relief be obtained by high altitudes?

4. Why should an attack be aggravated by a damp atmosphere?

5. Why should the paroxysm invariably culminate by a more or less profuse sero-mucous exudation, with cough and expectoration?

A consideration of the above would certainly seem to mark the spasm theory as irrational and as failing to account for the clinical history of a paroxysm.

The plausible theory, and the only one which presents itself as being in harmony with the various manifestations of the attack, as the cause of the asthmatic paroxysm, lies in a paresis

of the vasomotor nerves governing the bronchial mucous membrane, resulting in engorgement and dilatation of these vessels. Following this condition of vasomotor paralysis and turgescence of the vascular structures is ultimately an escape from the engorged bronchial capillaries of an exudation—serum and sero-mucus—into the bronchial tubes. This latter constitutes the last phase of the attack.

Thus is seen the intimacy of relation existing between asthma and hay-fever, or vasomotor bronchitis and vasomotor rhinitis. Both affections are essentially identical as regards the disease process, viz., a disturbance of the vasomotor equilibrium. "In the suddeness of their onset and in many of their features these diseases have the same origin, and differ only in site (in one the nasal mucous membrane, and in the other various portions of the bronchial mucosa)." If the structural changes of vasomotor rhinitis would occur in some portion of the bronchial mucous membrane the resulting manifestations would duplicate all the phenomena which are present in the asthmatic disorder. There is present in both, as has been shown, the same condition of turgescence and exudation. The distinctive feature of asthma is the dyspnea, which of course is due to the obstruction occurring in the bronchial tubes incident to the exudative process. Likewise the expectoration and cough coinciding with the cessation of the attack is easily accounted for by this method of reasoning.

We may then make the logical assertion that asthma is a disease depending on the neurotic habit and characterized by seasonal attacks of dyspnea due to obstruction occurring in the bronchial tubes in such a manner as to prevent proper aeration. Regarding the initial and essential cause it must be said that there is still much uncertainty. Vasomotor rhinitis is undoubtedly traceable to intranasal irritation, in most cases by pollen or emanations, and in others by local structural defects. The phenomena exhibited in asthma are truly reflex. The question naturally arising would relate to the specific point or points at which this reflex action is instituted. The intimate relation existing between the nasal and bronchial mucous membranes is generally known, and it has been demonstrated that the typical asthmatic paroxysm can be obtained (like hay-fever) by irritation of the nasal mucous membrane. In this connection let it be recalled how often regular asthmatic manifestations occur in the course of, or following, the condition of vasomotor rhinitis; herein the interchangeable character of the two affec-

tions becomes an important desideratum. In considering the reflex nature of the malady, Bosworth insists that the reflex arc has its commencement in the nasal mucous membrane, and that other reflexes occur only as complicating circumstances. A disordered mucous membrane he holds as the primary factor.

The investigations of Abrams bearing on his lung reflexes, and of other neurologists apropos of the reflex centers of the anal, urethral, and vaginal orifices, have led into question the infallibility of Bosworth's view of invariable intranasal etiology. His claim that an intranasal defect must always be present in the asthmatic patient has not been corroborated by other writers, and many clinical histories, presenting an apparent absence of such disorder, lead us to believe that the initial reflex may be located in other nervous centers. Scheck states that in sixty-four per cent of his cases of asthma he found certain evidence of intranasal disease. Whether or not this figure is fairly representative, it may be said that the majority of the cases can be attributed to intranasal disorder, as septal spurs, polypi, hypertrophic rhinitis, and hay-fever. Asthma is to be considered as a natural sequela or extension of the latter, which involves an identical process and which is virtually the same disease. Further investigations will probably reveal a more accurate essential etiology of the two disorders.

The established identity of vasomotor rhinitis and vasomotor bronchitis points out a common line of treatment, which however must be admitted to be more or less empirical. Treatment in both instances must be directed to the vasomotor paralysis which produces the various symptoms of discomfort. The first indication is, of course, the correction of any visible defect which might cause irritation. Superficial examination of the parts is not sufficient, as many conditions will be apparent only on the closest scrutiny.

The most rational remedial agent which the physician has at his disposal to-day for the treatment of vasomotor rhinitis is adrenalin, the isolated active suprarenal principle. In the latter disease it has been shown universally to be the remedy *par excellence*, and as such it has met with general acceptance. The principle of its action is such that it brings about a restoration of vasomotor equilibrium, and by its constringing action on the local engorged vessels at once relieves the turgescence. In consequence, coryza, dyspnea, itching, and other discomforts disappear. Adrenalin chloride has both a local and a general action; it is best administered by means of a spray, and internal

medication carried on simultaneously. Ocular itching, redness, and lacrimation may be corrected by local instillation of the solution. The position of this agent in hay-fever therapy has become so well established that it is hardly necessary to call attention to the details connected with its use.

Although the therapeutics of adrenalin is in accordance with the nature of the asthmatic paroxysm, it has not been so generally applied as in the condition of vasomotor rhinitis. The reason is quite apparent, since its local administration is attended with more difficulty, and a lack of good judgment and perseverance respecting its employment has heretofore widely prevailed. The best results have been obtained by a (nebulizer) spray thrown as far as possible into the fauces during extraordinary respiratory effort. Many reports of its efficacy, so used, have been recorded. It seems to me, however, that the ideal method of administering the drug would be by inhalation of the vapor from an oily solution.

As in hay-fever, adrenalin may be given internally with good results. Drs. Bullowa and Kaplan in a communication to the *Medical Record* of October 24, 1903, stated that adrenalin given hypodermically is capable of cutting short attacks of asthma in from two to twenty minutes. In their paper they advised that the dose be such as to cause prompt vasomotor constriction—three to six minims of the 1:1000 solution in a single or divided dose being used on adults. These writers cited a number of cases in which they obtained good results. Further announcements of the employment of adrenalin along this line will be awaited with interest. In cases of patients with brittle arteries the necessity of divided doses is emphasized, having in mind a possibility of injury in such instances.

The neurotic state which is present calls for the use of general sedatives, and during the paroxysms such drugs as chloretone, morphine and atropine (hypodermically), chloroform, and amyl nitrite are serviceable. The administration of potassium iodide or arsenic throughout long periods has been observed to exert favorable influence.

It is reasonable to presume that the general acknowledgment of the vasomotor principle, as applied to asthma, will result in future accrument to our limited therapeusis of this intractable disorder.

CHRONIC DYSENTERY—A PROTEST.*

BY A. B. COOKE, M.D., NASHVILLE, TENNESSEE.

Probably no disease has occupied a more conspicuous place in medical literature than dysentery, and it may be truly said that until a very few years ago little difference of opinion existed as to its etiology and pathology. Formerly it was believed to be a specific constitutional disease due to causes as definite and invariable as those of tuberculosis and typhoid fever. To-day authorities are teaching that dysentery, whether sporadic or epidemic, is primarily a local infection of the large intestine, and that the site of the infection is most frequently found in the distal half of the colon, including the sigmoid and rectum (Flexner, Ziegler, Cruikshank, *et al.*); and further, that the constitutional element of the disease is purely secondary, due to absorption of septic products from the infected area after ulceration occurs. While the cause is admitted to be bacterial, according to Flexner, the ameba dysenteriæ has not been proved to be the specific factor even in the production of tropical dysentery.

For present purposes the fact which most concerns us with reference to the acute affection is that the site of the infection is invariably the large bowel. While the distal portion of the ileum and the cæcum may exceptionally be involved, the distal portion of the colon and the rectum as a rule are implicated. A moment's reflection will show that this must be so; for even though the primary focus may be in the ascending or transverse colon, every part of the bowel below is of necessity continually exposed to the contaminating discharges. In the light of these facts it may be said in passing that no plan of treating acute dysentery can be considered a rational one which does not include measures applied directly to the parts affected in the most direct way possible—*i.e.*, through the rectum.

Now, what is chronic dysentery? Let the writer's position be clearly defined. Correctly speaking, he believes that the disease, if there be such a disease, is very rarely encountered in this portion of the country. Yet if all the cases which are so designated were in reality chronic dysentery, it might be truly considered the most frequent and wide-spread of all diseases of the intestinal tract.

If the data were sufficient to form a reliable guide, the study

*Read before the Tennessee State Medical Association, April, 1904.

of this subject would be facilitated by approaching it from two standpoints, namely: First, what proportion of cases of acute dysentery is followed by the so-called chronic form? Secondly, what proportion of cases of so-called chronic dysentery give clear histories of acute attacks immediately preceding?

With reference to the first question, statistics cannot be appealed to for an answer. Most authorities state that "sometimes" or "in a certain proportion of cases" the acute disease lingers on in the chronic form; but not one of them undertakes to define what "sometimes" and "in a certain proportion of cases" mean, and not one of them attempts to discuss the question of pathology in a sufficiently intelligible and scientific manner to establish the vital point as to the identity of the two forms.

My own experience in the treatment of acute dysentery has been very limited, but the fact is stated for what it may be worth that I have personally never known a case to assume the chronic type. It is conceivable and conceded that such a termination is possible. But let us not fall into error on this point. To establish the fact of chronicity with respect to any particular disease requires at the present time that, though the clinical picture may present variations, its identity, etiologic and pathologic, with the acute disease be scientifically proved. The weak point in the argument of those who believe in the frequency of chronic dysentery is that they have not succeeded in establishing such identity. Because a patient presents himself some days, or weeks, or months subsequent to an attack of acute dysentery, complaining of more or less frequent blood-stained discharges from the bowel, the diagnosis of "chronic dysentery" is promptly made, and usually without even the suggestion of an examination. With respect to no other class of diseases is our profession so habitually and flagrantly lax in the matter of diagnosis. An accumulation of fluid in the pleural cavity due to an attack of acute pleurisy is not diagnosed "chronic pleurisy." Suppurative otitis media following an inflammatory disease of the throat is not called "chronic pharyngitis." Nor is a fecal fistula resulting from an operation for appendicitis termed "chronic appendicectomy." These are recognized as complications or sequelæ, and no such absurdities of nomenclature are attempted. Yet with respect to the affection under discussion exactly this absurdity is calmly and seriously perpetrated every day in the week. Because a patient at some time, near or remote, in his past life has been the victim of an attack

of acute dysentery, he is forever after debarred from what may be termed rectal prerogatives of the ordinary individual—he can never possibly have a simple ulceration of his rectum, nor an acute proctocolitis, nor indeed any other trouble attended by blood-stained discharges except "chronic dysentery."

The truth is that every case of acute dysentery is attended by a greater or less inflammatory involvement of the rectal mucosa due to the irritating discharges from above, hence the tormina and tenesmus which are such distressing features of the disease. No element of specificity is necessary to account for this. And when the inflammatory process results in loss of tissue, as is doubtless often the case, the ulceration so produced may or may not be chronic, but it certainly cannot be correctly regarded as other than a sequel of the original disease, and should not be designated by a name at once inaccurate and misleading.

Considering the subject from the view-point suggested by the second question—What proportion of cases of so-called chronic dysentery give clear histories of acute attacks immediately preceding?—a more definite answer is possible. In the past eight years I have had under my care between eighty and ninety cases which were so diagnosed either by the patients themselves or by the physicians who referred them. In each case I have invariably inquired closely as to a history of acute dysentery, and out of the rather considerable number of cases mentioned my record book shows that such history was obtained less than a dozen times.

It would be interesting to tabulate the entire series, so as to show the wide diversity of pathologic conditions encountered. Here it must suffice to say that proctitis, proctocolitis, ulceration of the rectum (simple, tubercular, syphilitic, and malignant), stricture (malignant and non-malignant), polypi, and even internal hemorrhoids, were the different conditions met with in one or more instances. It is worthy of remark also that none of the several cases which gave a history of a previous attack of acute dysentery presented a pathology or clinical phenomenon in any sense peculiar or distinctive. The one feature possessed in common by all the cases was blood in the discharges, but this one feature had been seized upon and for diagnostic purposes evidently regarded all-sufficient.

During the past week I was consulted by two patients, one from an adjacent county in Tennessee, the other from Alabama. Each patient was accompanied by his physician, who in both

instances assured me in the most matter-of-fact tone that the trouble was "chronic dysentery," and could not understand why their large doses of bismuth, astringents, etc., had failed to reach the case. The first patient gave a history of an attack of acute dysentery about a year ago, and dated the beginning of his trouble from that time; the second had never had an acute illness of any kind. Upon examination the first case proved to be one of diffuse follicular ulceration of the rectum complicated by a general inflammatory involvement of the colon and sigmoid of chronic type. This patient was having many discharges of bloody mucus in the twenty-four hours, and had lost sixty pounds in weight during the past year.

The second case presented no local pathology except a mild catarrhal proctocolitis. The "chronic dysentery" in this case was accounted for by the fact that several times each year during the past ten years the patient had had attacks of indigestion accompanied by diarrhea, and the passage for several days following of blood-stained mucus.

I merely refer to these two recent cases as fair illustrations of the abuse of the term "chronic dysentery."

Some one may inquire at this point, "What is all the row about? What difference does it make by what name the trouble is called?" I answer, the row is about something more than a mere abstraction, and the difference it makes in many instances involves the issue of life and death. If the position I hold on the subject is correct, the term "chronic dysentery" in the great majority of cases is a misnomer; whether the position be correct or not, the name is worse than misleading. The time-honored teachings in regard to the treatment of acute dysentery uniformly indorse medication by the mouth, and the same idea obtains almost as uniformly as to the management of the so-called chronic form. The very name, dysentery, which the patient is usually ready to suggest for his malady, seems capable only of the routine therapeutic translation—bismuth, opiates, and astringents. It would utterly astound the members of this learned body if I should give the treatment which I have known to be employed in some of these cases. Heretofore I have expressed the conviction, and I make bold to reiterate it in this connection, that in this fair southland of ours many a sufferer has found everlasting peace as the result of physicians' misguided efforts, not to mention others who exist in living death, slaves to the opium habit.

My purpose in this brief paper, Mr. President and gentle-

men, has been simply to lay before you my personal views as to the real nature of this so-called "chronic dysentery," and to beg that the term be dropped from our vocabulary. To summarize, the points I would especially emphasize are:

1. That almost without exception the condition so named is purely local.

2. That the term "chronic dysentery," as ordinarily employed, does not and cannot refer to a definite pathologic entity, but rather covers a wide variety of local diseases in no way related to dysentery.

3. That a chronic discharge from the bowel, unattended by the well recognized symptoms of a general systemic disease process, always indicates a lesion of the rectum, sigmoid, or colon.

4. That the idea of a necessary relation between bloody discharges and chronic dysentery is based upon a false assumption, and should be both abandoned and forgotten.

In order that we may know the truth with reference to these cases, the one thing needful is that every patient who consults us for such trouble be, without exception, subjected to careful physical examination. In the name of humanity, and for the honor of the great profession to which we belong, let us not be content with conjecture where we may have knowledge, with failure where we should have success.

HOW WE SHOULD TREAT RHEUMATISM.*

BY J. W. PALMER, A.B., M.D., S. A. L. R. R. SURGEON, AILEY, GA.

Rheumatism, the bane of the human race, is the name used to cover all inflammatory and painful affections of the fibrous tissue about the joints, and in the muscles, which depend upon some constitutional morbid state or infective process. The word rheumatism is apt to bring rather a confused idea of many possible conditions of disease, to cover many mistakes in diagnosis, many errors and negligences. It has been applied without sufficient discrimination to a great variety of disorders which, except pain, have but few symptoms that connect them together. Therefore, when we say rheumatism, the most of us include arthritis deformans, rheumatoid arthritis, neuritis, and myalgia.

*Read before the Georgia State Medical Society, Macon, Ga., April 20, 1904.

When we make our diagnosis correctly and call it rheumatism, the prognosis is very favorable, as simple rheumatism is fairly easy to cure under our present therapeutic methods; but if it be neuritis, it is much more difficult to cure; and if arthritis deformans, it is very hard to cure under all circumstances. Now it is not my intention to make any attempt to discuss the debatable points relative to rheumatism.

Before we can treat rheumatism successfully we must consider its etiology, and make a correct diagnosis, and this should be done as early as possible, as when the damage is done the treatment can only be palliative. There is no disease that we have as little exact knowledge of as rheumatism, and especially its etiology. The two great views are the infective (which may be either due to a specific organism, or to a variety of organisms) and uric acid diathesis. The latest investigations and research seem to point toward an infective cause, although culture results have been negative. The mode of onset, often sudden, with involvement of many joints, the chill, the fever, the pulse-rate, are all suggestive of the infective theory.

In the past we claimed that tonsillitis was caused from rheumatism or uric acid diathesis, but now we have good authorities who advance the theory and sustain the fact that tonsillitis causes rheumatism, or rather the tonsils are the source of infection, or the seat where the organism enters into the body. This I believe from clinical experience. I have noticed so many cases suffering with tonsillitis who later developed rheumatism. Not long since I treated a case of acute articular rheumatism which had just recovered from an attack of tonsillitis. I don't remember ever noticing a case of tonsillitis to develop after rheumatism.

Again, we find cases in which we promote elimination of uric acid and relieve the morbid condition, resulting from its excess in the system, and do not relieve the rheumatism.

The excess of uric acid in rheumatism may and can be due to a defect in the neurotrophic nerve mechanism, which causes a defective metabolism, with excess of uric acid, and consequent affection of fibrous tissue by uric acid deposit. Toxemia secondary to infection explains the defect in neurotrophic nerve mechanism. That the etiological factors are imperfectly understood tends to increase the haziness on this subject, so much so that the whole question must yet be left unsettled.

Diagnosis.—The diagnosis is about as hard to make as to ascertain its etiology. As Spender says, "the diagnoses of

rheumatism, muscular rheumatism, sprains, arthritis deformans, and neuritis are pitfalls into which we are too apt to stumble."

The differential diagnosis in gout, myalgia, and neuritis from rheumatism is not so difficult, but early diagnosis of chronic rheumatism and arthritis deformans is very difficult, and sometimes impossible. And this error in early diagnosis is one reason why there are so many old incurable chronic cases of so-called rheumatism, but is true arthritis deformans. Strumpell says: "No hard and fast line can be drawn between subacute or chronic rheumatism and arthritis deformans, but arthritis deformans is so often regarded as rheumatism, and the proper treatment delayed until we have profound pathological changes in the joint structures, and being made worse by antirheumatic treatment, that the damage is done, and all we can then do is palliative treatment; but if we could make an early, correct diagnosis and promote good nutrition, good hygiene, fresh air, and plenty of sunshine, with iodide of iron and arsenic given together or alternately, we would get rid of so many old chronic cases of so-called rheumatism, which is true arthritis deformans."

In the treatment of rheumatism two things are essential—patience and perseverance, both in the patient and physician. One thing about rheumatism is that a patient rarely dies of the disease, which makes their number greater.

Having determined it is purely rheumatism that I have to deal with, I proceed to treat it as follows: The first essential of a cure is the rectification of a torpid liver; careful attention to the stomach or the digestive tract, and the elimination of uric acid, as it may yet be the cause. My armamentarium is drugs, hot air, and electricity, combined or taken separately. In treating rheumatism I divide it into two classes for therapeutic purposes—acute and chronic. If the acute stage is properly and thoroughly managed, there will rarely be any chronic stage to consider, but this could not have been said before the advent of hot air.

In giving drugs, which I consider the least of my treatment, we wish to saturate our patient with salicylates, and this is best done by giving salophen first and aspirin second, given alone or in combination. Aspirin is best given in doses from 10 to 15 grains in sugar of milk, to be stirred in a tablespoonful of water just before taking, repeated every four hours; or salophen and phenacetine, 5 grains each, every four hours. In chronic rheu-

matism the effects of salophen and aspirin are aided by the local application of mesotan. Some cases in which the former fails, this relieves. This is the best remedy I know of for muscular rheumatism. It is quickly absorbed by the skin, as shown by the rapid appearance of salicylic acid in the urine, in one-half hour afterward. It is best prepared as follows: Benzoinated lard and mesotan, ää ℥j. The lard is first melted and then mixed with mesotan, and applied every three hours to painful parts. The power of the drugs is increased twofold by hot air; in other words, hot air, through its power of relieving stasis and stimulating sluggish metabolism, renders rapid and effective the assimilation of the appropriate remedies; the general trophic centers are not subjected to drugs, pain, or unendurable toxin depression, so recovery is rapid and satisfactory.

In acute rheumatism hot air is usually sufficient, and it can be applied with the limb apparatus, and it is not necessary to use the body apparatus; if more than one limb or parts are affected, we should use as many apparatus at one time as possible. Have your apparatus in a room of even temperature; have patient shrouded in wrapper or gown, and cover parts affected by wrapping in Turkish towels, two thick; then apply roller bandage, so the towels touch every particle of the affected parts, for if there is a small area uncovered it will sweat and blister. I had one blister with a patient, and it stubbornly healed. The local treatment should be applied at least twice a day, at a temperature of 400° F., for an hour, until soreness and pain in the parts have entirely disappeared. When the pain returns, after the treatment, the same may be applied again at once. Usually twenty minutes will remove the pain from the most violent cases, and will be free from pain for several hours. We should repeat this application when pain returns, and by so doing the patient can be kept from much discomfort during the whole period of convalescence. It is helpful for the affected joint to have rest, as it is the fibrous element affected in rheumatism. I do not use massage, liniments, or any external application except mesotan, as previously described, as they are uncalled for and useless, but it is well sometimes to do up the limb in absorbent cotton or flannel. When one is prone to use salicylic acid, if it is done in conjunction with hot air it will be an extremely rare occurrence to have any sort of systemic disturbance, because local metabolism is kept at its point of greatest activity and assimilation is rapid and complete, while less of the drug is required to be introduced into the system.

This is very important, because of the irritative tendencies toward the stomach and kidneys, and its depressing influence upon the heart; it sometimes so impairs assimilation and metabolism that it destroys its own effectiveness by rendering impossible its ingestion in sufficient quantity.

Electricity in acute rheumatism is equally as efficient as hot air. I have relieved cases of acute articular rheumatism in five days with static electricity. I would first give thirty minutes' treatment of the Morton wave current to keep up active metabolism and rapid and complete elimination. I then give the brush discharge for thirty or forty minutes over the seat of the inflammatory process, for relief of pain and swelling, and also for local metabolism. There is no comparison of galvanic and faradic with static electricity in the treatment of rheumatism.

Diet.—The patient should be fed as would a person sick with any other disease which had impaired his power of digestion and assimilation. Plenty of liquid diet, in the form of milk (as much as one quart or more per day), water, carbonated or plain, or lemonade.

In chronic rheumatism the drug treatment differs very little from that of the acute form. The hot-air treatment differs very little from the acute. As pain is not so severe, the treatments are not so often repeated or given when hot air is applied. I do not get as good results with hot air in chronic rheumatism as in the acute, but it is in chronic rheumatism where electricity gives marvelous and gratifying results. Morton, of New York, says: "I can say in general that of every form of treatment I have tried, I have found none in any way comparable for relief and cure to the electrostatic treatment."

In treating chronic or subacute rheumatism with static electricity, first administer the Morton wave current for thirty minutes, applying the tin electrodes to the affected parts, then administer the long, clean percussion spark for fifteen minutes, and lastly apply the friction spark for over ten minutes. For the first week I apply this treatment twice a day; second week daily; after that every other day for one month, and if any effects remain thereafter I administer it twice a week. So much for the treatment of rheumatism.

Now the other diseases clinically grouped with rheumatism are considered separately, and the various treatments of them would make a small book.

The best men we have in the medical profession, while they are devoting a great deal of time to various diseases to which

human flesh is heir, are ignoring and forgetting the large and miserable number of rheumatic (so-called) victims, and there are few of us who are not confronted with such patients. We give them no encouragement, no relief, and show no interest in them, and the result is they seek the quacks. Hence there is nothing that gives the quacks a better reputation than the treatment of chronic rheumatism.

I say let some of our best men turn to the rheumatic field, and not spend all their energy in such diseases as tuberculosis, and see if in the twentieth century something cannot be done to clear up the large group of cases called chronic rheumatism, for we know the word rheumatism has been abused to an enormous extent, and so long as practitioners are satisfied with their present knowledge of etiology and diagnosis, rational therapeusis is impossible. We are much indebted to Dr. McCrae, of Hopkins, for his report of 110 cases of arthritis deformans, which has thrown much light on the clinical rheumatic group. The victims of rheumatism are many and miserable enough to justify a demand on their part that we put ourselves in a position to do something for their relief.

In conclusion, I say when we make a correct early diagnosis, ascertain the cause and pursue my method of treatment, and we will find the old rheumatics fewer in number and the quacks vanishing.

According to the *New York Times,* a despatch from Harbin, recently received, gives a striking account of the horrible condition of the streets and the entire absence of sanitary arrangements in that town. There is no municipal administration, and the Russian authorities have forgotten to pave the streets, organize a corps of scavengers, or make drains. All these requirements have been left to chance, and now the authorities have been overtaken by the war. Thus Harbin, which was visited by cholera two years ago, and which suffers from typhus every summer, will probably be the scene of an outbreak of plague this year. The wounded are brought from the south to be cared for at Harbin, and out of the enormous sums collected in Russia for their benefit a large amount must be set aside for sweeping, cleaning, and disinfecting the town, in order to render it a tolerable place of residence, as otherwise it cannot, during the summer months, be anything but a center of contagion.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

GRAVES'S DISEASE.

Any contribution to the hitherto undisclosed pathology of Graves's disease is at all times welcome, as there is probably no condition to which the human organism is subject which has baffled explanation so persistently. Dr. W. H. Thompson, of New York, has recently submitted to the profession a critical commentary upon some 100 cases of this disease, and his views are in some respects sufficiently novel to merit more than ordinary attention. His main contention, based upon an analysis of the symptoms prevailing in this group of cases, is to emphasize the fact that the constitutional and general derangements which are characteristic of Graves's disease constitute the disease itself and not any condition of the thyroid gland. The author's cases seem to show that this disease in its severest and even fatal forms may occur and run its course without any evidence of the thyroid being involved. His histories are those of twenty-eight without goitre, compared with forty-two in which this symptom was present. All the facts, as they became known to this author, would lead to the conclusion that implication of the thyroid at best bears but a secondary relation to the disease, and that the true cause of this distressing malady must be sought for elsewhere. It is needless to say that such a conclusion as this involves a corresponding modification in the therapeutic measures now in vogue.

Of the so-called cardinal symptoms the tachycardia seems to be one which is characterized by symptoms which are likely to be specific. "Its remarkable persistence is matched only by its invariable lack of association with any other cardiac disorder, coupled with as constant an association with the varied

derangements of wholly other organs." The tremor of Graves's disease is also very specific in its manifestations, resembling the physiological tremor of fright only. It was this symptom which it will be recalled was the *point d'appui* of Mackenzie's theory that the disease was reversionary in character and an echo of some distant shock in a remote ancestor, probably in days when men were habitually hunted by their enemies or pursued by wild animals. Darwin's description of the expression of the emotion of fear still remains a fair clinical picture of the main features of Graves's disease.

Dr. Thompson's conclusions regarding the universality of the alimentary symptoms form perhaps the basis of his most important contribution to the study of this disease. Gastric and intestinal disorders were unvarying in his cases, these derangements, however, never assuming inflammatory phenomena. It is probably the persistence of these symptoms which leads the author to challenge the long-accepted notion that this disease is due to morbid activity on the part of the thyroid gland. The author apparently believes that the essential feature of this disease is in the nature of an intestinal toxemia, and is best combated by the use of intestinal antiseptics. If this be true a new field is undoubtedly open to the exhibition of the many valuable remedies which have for their purpose the prevention of gastrointestinal fermentations. If it be proved that Graves's disease is a general toxemia of gastrointestinal origin and not of thyroid origin, a distinct advance has been made in our understanding of a malady which is a prolific cause of affliction to the human race.

EDITORIAL NOTES.

The Teaching of American Medicine from an English Standpoint.

The commission recently sent from England to study our educational system contained two medical members—Dr. J. R. Bradford, professor of medicine in University College, London, and Dr. W. H. Gaskell, university lecturer in physiology, Cambridge. The views of these medical men were published in a recent issue of the *British Medical Journal.* They say that the enthusiasm of the teachers and of the students was one of the striking features of their visit. All the leading universities had, according to their report, exceedingly fine and in some cases

magnificent laboratories, with equipment of a high order of excellence. In the teaching of the non-clinical subjects the laboratory and practical side was especially developed. Systematic instruction by lectures seemed not to be in general favor. Even in final subjects (medicine, surgery, etc.) the teaching was extraordinarily systematized, but speaking generally the students did not have the clinical faculties obtainable in England. These observers say that scientific investigation in the United States has reached a very high order of development. They advocate the adoption by English instructors of the methods followed here, such as the early study of bacteriology and the custom of giving unknown organisms and sections to students for the purpose of identification. This is probably the most intelligent view ever taken by foreigners of our system of medical training, and their deductions show that we are gradually taking a stand among the older countries in the teaching of medicine and surgery.

The Patent Medicine Curse.

The editor of the *Ladies' Home Journal* has shown considerable courage in publishing editorially in the May issue of that magazine a list of the most used patent medicines, showing the percentage of alcohol contained in each. The writer says he would not venture to catalogue these preparations by name and print the percentage of alcohol which they contain if he had not received the facts from analyses of the Massachusetts State Board analyst. In conclusion he says: "It is not by any means putting the matter too strongly to say that the patent medicine habit is one of the gravest curses, with the most dangerous results, that is afflicting our American national life. Sooner or later the people of America must awaken to the fearful dangers that lie in these proprietary preparations. The mothers of our children in particular must have their eyes opened to the dangers that lurk in these patent medicines. Here and there a hopeful sign of an awakening is seen. Slowly but surely the best magazines are falling into line in their refusal to accept patent medicine advertisements of any kind. Not long ago one of the insurance companies made an excellent move by requiring its medical examiner to ask of each subject for insurance, 'What patent medicines have you used during the last five years?' and gradually other insurance companies are realizing the fact that the use of patent medicines is even more injurious

than the use of alcoholic liquors. But much still remains: more should be done. Public interest must be more widely aroused." Such an article published in a journal of this sort cannot fail to do a great deal of good.

A New Antidote for Carbolic Acid Poisoning.

Some time ago a veterinary surgeon of Dublin accidentally discovered that turpentine, when taken in poisonous doses, is an antidote to carbolic acid. He was called upon to treat two horses that had been poisoned, and gave one of them what he thought was olive oil, but which was really turpentine. The benefit was so great that he gave some to the second horse. Both recovered rapidly, although the second horse was already unconscious when the dose was administered. As we have at the present time no very efficacious treatment for this form of poisoning—which is a favorite method of many would-be suicides—it might be well worth trying to prove its value.

Cancer Caused by Corsets.

A writer in an English medical journal has recently called attention to a mode of onset of cancer of the breast which he has designated "corset cancer." The site of attack of this cancer is over the upper and outer radiant from the nipple, corresponding exactly to the point where the upper edge of a corset crosses the pectoralis muscle. The writer observed it in three cases that came under his observation, and gives as the cause the friction of the corset at this spot. As the corset is held responsible for various ills that affect womankind there may be some truth in this allegation against it.

The Automobile as a Cure for Consumption.

A French physician advances the claim that automobiling will cure consumption. His experience is entirely personal. Finding himself a victim of tuberculosis he purchased an automobile and rode regularly every day a hundred miles. He soon found that his cough diminished and that his appetite and weight increased. He attributes his cure to the prolonged stay in the open, together with the increased atmospheric pressure due to the rapid motion. Perhaps some of our philanthropists who are giving so much toward the erection of tuberculous sanatoria may take the hint and provide autos for the patients.

ITEMS AND NOTES.

Bubonic plague continues on the west coast of South America.

Typhoid fever is showing no appreciable abatement in Philadelphia.

It is reported that uranium ores containing radium have been found in Sweden and in Portugal.

From Australia and New Zealand come reports of an increased mortality and a decreased birth-rate.

Milan, Italy, will soon establish a "Bassini Institute" to supply operation treatment of hernia to the poor.

Plague has broken out among the Chinese collected at Kowloon for transportation to the Transvaal mines.

The German Supreme Court forbids the use of the title "Doctor" in Germany, when granted in the United States.

The American Proctologic Society held its sixth annual meeting at the Seaside House, Atlantic City, June 8 and 9.

Courses have been begun at the St. Petersburg Medical Military Academy for physicians wishing to study the Japanese language.

The twenty-ninth annual meeting of the American Gynecological Society was held in the Medical Library, Boston, on May 24, 25, and 26.

The first government sanatorium in Canada has just been completed at Kentville, N. S., and will be ready to receive patients about July 1.

Miss Clara Barton has resigned the presidency of the Red Cross Society. A new charter will be issued, with various changes in the plan of management.

All the Esquimaux living in the Mackenzie basin except ten families have been killed by the ravages of measles. Before the epidemic there were forty or fifty families, or 200 or more persons.

The trustees of Columbia University have appointed James R. Hayden, M.D., clinical professor of genito-urinary diseases, in succession to Dr. Robert W. Taylor, and have also appointed Dr. Arnold H. Knapp clinical professor of ophthalmology.

It is stated that during the last winter session the number of women students in the faculty of medicine in the Swiss universities has exceeded the number of men students, the total being 763 men and 891 women. There were no fewer than 377 women students in Berne, 181 in Lausanne, 177 in Zurich, 151 in Geneva; in Basle there were only 5.

An exchange says: "Habitual drunkards after conviction in Montreal, Quebec, are now given the option of paying a fine, undergoing imprisonment, or taking a certain cure. At present there are 22 under treatment, 10 at their homes, and 12 at the jail. Each patient is expected to take sixteen doses of the prescribed medicine each day, and is warned not to drink any intoxicating liquors during the time of trial."

The Chinese national intoxicant is named "Chansin." It is obtained principally from an herb called Gaolyan, which is grown on almost every peasant's land in Manchuria, being used partly for cattle food. Chansin is not uniform in spirit contents, but may be taken to be about 150 per cent stronger than Russian vodka. It is prepared in very old-fashioned apparatus. Poisonous impurities are often present in appreciable quantities.

In Zurich a lady doctor has been advocating that all unmarried women of the well-to-do classes should be compelled by the State to devote one year to unpaid hospital work. She claims that the hospitals would benefit and the girls gain a training of great value to them after marriage. The latter may be true, but the results to the hospitals would, we imagine, be anything but desirable.

Dr. Gersuny, who now is perhaps the best known of all Billroth's pupils, recently celebrated his sixtieth birthday in a fashion different to that common in Austria. Instead of holding a reception he performed four prolonged operations. It is to Gersuny that in Austria is ascribed the credit of several new operations and modifications of technique, especially in connection with plastic operations on the vagina, the use of paraffin injections, and the introduction of torsion to produce an artificial sphincter ani.

It is stated by one of the Eastern journals that Dr. Weir Mitchell announced at the annual banquet in Washington of the Association of American Physicians on May 10, that he had received a communication from Dr. Noguchi, of Japan, to the effect that the latter had discovered a positive antitoxin for snake venom. Dr. Noguchi is working under a grant from the Carnegie Institution at the Serum Institution in Copenhagen.

Mr. Carnegie has created a fund of $5,000,000 for the benefit of persons dependent on those who have lost their lives in heroic efforts to save life, or of such persons themselves if injured but not killed. The benefits of the fund apply to Canada and the United States, and Mr. Carnegie's letter contains the following: "No action (is) more heroic than that of doctors and nurses volunteering their services in the case of epidemics . . . all these and similar cases are embraced."

The medical branch of the Canadian militia department has now on order, says an exchange, a large supply of material and equipment that will add materially to the efficiency of this service. The purchases include eighteen ambulance wagons of a new type, designed by Lieutenant-Colonel Fiset, director of the Canadian army medical service. Each wagon will be a hospital in itself, with room in it for four patients lying down or thirteen sitting up. There will be nine water carts—that is, one for each bearer company—twelve sets of medical panniers, twelve sets of surgical panniers, eighteen sets of canteen panniers, fifty surgical haversacks, and fifty monkey boxes.

It is reported by a contemporary that a woman of Boston, eighty years old, and worth $75,000, is hiding herself because she says physicians want her body to dissect, and all for the reason that her floating ribs have by muscular action been transferred from her right side to her left side. She says that recently when she was in a hospital for treatment her malformation was discovered, and she was offered $2000 on condition that she would bequeath her body for dissection. She fears that the doctors won't be content to wait until she dies, and so she has concealed herself. Her malformation is said to be unique, in that it has been caused by gradual muscular action.

A female criminal has recently been on trial in Paris who has been able to escape punishment several times by failure to identify on the part of her accusers. She claimed, says an exchange, that she could not be the person sought, as her accusers

could not fail to note some extensive tattoo marks on her arm, as she showed the court, and yet no one had seen them, as her accusers confessed. A chemist was finally found who produced a cosmetic which caused the immediate disappearance of all evidences of tattooing—its effect lasting several hours. She had used some preparation of the kind to disguise her identity during her crimes, and had escaped justice for years by this means.

THE following cable despatch recently appeared in the *New York Sun:* "Ten years ago the injection of salt water as a restorative to patients dying from loss of blood aroused general interest. The discovery of the quality of salt water probably suggested to the French savant, M. Quinton, a long and patient research concerning salt water, the conclusion of which throws unexpected light on and adds support to the Darwinian theory of evolution. M. Quinton maintains that sea water is the natural source from which, as Professor Haeckel believes, elementary bodies rise which develop into all the species, including the human. The environment wherein the anatomical elements of living creatures exist is neither more nor less than a marine one. Our tissues and cells continue to exert their functions in a fluid, the composition of which bears the closest resemblance to that of sea water."

ACCORDING to *American Medicine,* Dr. W. Thorner, the assistant of the University Clinic of the Royal Charity Hospital, has succeeded in solving a problem which had received much attention from many others before him, but with little or no success. He has managed to photograph the background of the eye and obtain good pictures of it too. His invention represents a material improvement on the ophthalmoscope invented by Helmholtz in 1850. The latter, however, only admitted of viewing the background of the eye. The fact that all attempts to photograph the interior of the background of the eye had remained fruitless so far was due to the peculiar construction of the eye. It is difficult to light up the interior to such an extent as to enable one to take a photograph of it, and even in the use of strong sources of light the exposure would require so much time that the eye would have to be fixed, which would mean great inconvenience to the patient. Now Dr. Thorner has constructed an apparatus with which he first succeeded in photographing the eyes of animals, especially cats.

NEW PUBLICATIONS.

CLINICAL MICROSCOPY.

The present volume is an English translation of Professor Lehmann's Manual of Clinical Microscopy and Chemistry. The work has already gone through three editions in Germany and has obtained a well merited popularity. The thoroughness and completeness of the work as a laboratory manual is due to the questioned as to present form and thoroughly up-to-date, and such recent subjects as tuberculosis, the gonococcus, bacillus, and the newer methods of bacteriological investigation. The work is certainly one which will prove a boon to the modern practitioner, to whom the laboratory is the most essential factor in the diagnosis and treatment of disease.

Manual of Clinical Microscopy and Chemistry. By Dr. Hermann Lehmann, Professor of Medicine, Hamburg. Authorized Translation by Edgar F. Brown, M.D. Philadelphia: P. A. Davis Company.

MATERIA MEDICA.

This manual of materia medica, which was first published eight years ago, has shown its power of survival by now entering upon a third edition. The purpose is to give practitioners and students a clear and concise statement of the science of materia medica without encumbering the mind with technicalities. The book is one which for various reasons will commend itself to the student and practitioner.

Manual of Materia Medica and Pharmacy. Specially designed for the use of Students of Medicine and Medical Pharmaceutical Departments and Pharmaceutical Students. By H. Newton Kirk, Ph.B., M.D., Instructor in Comparative Materia Medica and Pharmacy in the University of Pennsylvania. Third Edition, Revised and Enlarged. Crown Octavo, 532 pages, interleaved throughout. Bound in Extra Cloth, $2.50 net. Philadelphia: P. A. Davis Company.

GRAVES'S DISEASE.

The author has made a study of some one hundred cases of Graves's disease, and in the conclusion that the tendency to regard the modification of the thyroid as the main feature of the disease is an erroneous one. The disease is considered as a toxemia of gastro-intestinal origin. The work is an interesting one, and has been commented on in greater length elsewhere. The author's suggestions in regard to the treatment of this disease are timely and valuable.

Graves's Disease with an Introduction on Exophthalmic Goitre. By William Osler, M.D., LL.D. New York: William Wood & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Method of Incision of the Abdominal Wall in the Performance of Laparotomy.

A. J. Wallace (*Jour. of Obst. and Gyn. of Brit. Emp.*, December, 1903) recommends the following procedure: A skin incision is made about one inch from the midline on one or other side. The sheath of the rectus is cleanly exposed and all bleeding points ligatured. The sheath is then opened about three-fourths of an inch from the linea alba, the opening enlarged to the needful extent vertically, and the inner half of the sheath separated, first by the handle of the scalpel and then by the fingers, from the underlying muscle. At this stage the patient is placed in the Trendelenburg position. The rectus is drawn outward to expose the posterior sheath, which with the peritoneum is incised. The wound seldom needs to be enlarged as the rectus can be drawn aside, but should a long incision be necessary it is made slightly crescentic in shape, with its concavity directed inward in order to preserve the relations of the skin and fascial incisions to the inner border of the rectus. During the operation the peritoneal edges are carefully clamped to those of the skin. In closing the wound a continuous silk suture is used for the posterior sheath, a small drainage-tube being inserted when the sheath is almost closed, and while the patient is brought to a horizontal position, to enable air to escape. The median edge of the rectus is attached to the inner border of the sheath by one or two stitches, the anterior sheath closed by a continuous suture, and the skin edges brought together by a continuous subcuticular iodized catgut suture. To prevent hemorrhage a flat sand-bag, whose weight varies from six to nine pounds, according to the amount of fat in the abdominal wall, is placed over the dressings and kept in position for twelve hours. When drainage is needed a slight modification of the above procedure enables a glass tube to be inserted, but for the most part in such cases Wallace has employed a gauze drain passing externally per vaginam. He has employed his incision in forty-eight cases for the pathological conditions usually found in the female pelvis. The cases

chosen have been clean at the outset, for the risk of infecting extensive connective tissue planes would be too great to justify its use in cases known to be infective before opening the abdomen.

Up to the present time there has been no failure, even where suppuration has occurred, and no patient has subsequently needed to wear an abdominal belt. Pfannenstiel has recommended a transverse incision of the anterior sheaths of both recti. His method is good, but has the disadvantage of wounding the linea alba. When modified so as to leave this intact, Pfannenstiel's incision is admirably adapted to the performance of ventrofixation of the uterus.

Behavior of the Costal Arch in Abdominal Disease.

E. Eliot (*Medical News,* April 30, 1904) says the symptoms of costal resistance may always be elicited in the acute and subacute inflammatory processes of the contiguous underlying organs. In chronic inflammation of these same organs it is present irregularly, either generally, when the organ is increased in size, or during a transitory exacerbation of the chronic inflammatory process. In neoplasms or cysts increased costal resistance may be obtained only when the tumor has reached a sufficient size to mechanically interfere with the movement of the arch. The degree of resistance is in direct ratio to the intensity of the inflammatory process. The increase of costal resistance is most marked in that segment of the costal arch which is closely situated to the original point of infection, or, in the case of neoplasm, to that part of the arch which lies over the most prominent part of the tumor. Its value as a diagnostic symptom is the greatest in pathologic conditions invading the upper half of the abdominal cavity, especially of the liver, the stomach, the pancreas, the gall-bladder, the spleen, the duodenum, the kidneys, and in extensive aneurism of the abdominal aorta.

The writer has had but little opportunity to observe this symptom in supradiaphragmatic processes. In cases of empyema the abscess cavity is generally encapsulated and does not usually occupy the lowest part of the thoracic cavity. Only when so situated is there resistance of the costal arch proper. In higher positions any difference in the rigidity of the overlying rib or ribs is very difficult to detect and unsatisfactory. The presence of asymmetry in the elastic recoil is very much less

frequently observed than symmetrical increase in the costal resistance, the former being present only in cases of cysts, neoplasms, and inflammatory exudates in which the acute symptoms have subsided, while it is invariably absent in all the acute and subacute inflammatory. With the subsidence of the inflammatory process, whether by radical or palliative procedure, the costal resistance again returns to its normal condition. The presence of this symptom is very valuable, not only in facilitating accurate diagnosis, but also in serving as a useful guide to that incision through which the inflammatory focus may be most rapidly exposed and satisfactorily treated. Finally proper and skilful technique in determining the presence or absence of this symptom may be easily acquired, and therefore the application of the symptom may be utilized by the general practitioner and not confined to those engaged in the pursuit of any particular specialty.

Prevention of Postoperative Abdominal Hernia by Overlapping of the Aponeuroses.

D. Winslow (*Annals of Surgery*, Jan. 8, 1904), assuming that the aponeurotic coverings are the chief supporting structures of the abdominal wall, and that approximation by overlapping, in doubling the strength of the aponeurotic layers, doubles the strength of the abdominal wall at the seat of incision, holds that it is advisable to employ this principle in closing abdominal wounds. The following description is given by the author of the technique practiced for closing an incision made in the middle line, or for attacking a diseased appendix or gall-bladder: The integument and subcutaneous tissue are incised down to the aponeurosis, which is then laid bare by reflecting back the skin and fat for an extent of an inch and a half on each side of the incision. The aponeurosis is next incised in the same line and directly beneath the skin incision, and two flaps, one on each side of the incision, are raised from the underlying muscle by blunt dissection, one flap of aponeurosis being freed for an inch or so from its cut margin, the other for about half that distance. The incision through the rest of the abdominal wall is then completed. When the wound is closed the peritoneum is approximated by a continuous suture. The muscular layers if well developed are brought together by interrupted sutures. Then the cut margin of the aponeurotic flap which was but slightly freed is stitched to the base of the

opposing flap by interrupted or mattress sutures. The free margin of the opposing flap is lapped over the other flap and stretched down to its surface. The margins of the skin are then brought together in the usual way.

Operation in Spinal Cord Injury.

Two cases of spinal cord injury are described by P. J. Mixter and H. M. Chace (*Annals of Surgery,* April, 1904). In regard to the advantages of surgical intervention the authors say that operation removes depressed fragments of bone apparently lying against the cord. It removes blood-clots and allows the escape of exudate, and makes room for inflammatory thickening; if extensive hemorrhage is present, either extra- or intradural, it relieves pressure from the cord. Cases in literature have shown that degeneration from pressure appears within four days; if a cord is injured by crush and not totally destroyed, the continued pressure of a blood-clot may succeed in completing total destruction. Traumatic spinal edema may be of such extent as to demand greater space for enlargement of the cord to avoid further destruction of fibers. There is absolutely no method by which one can early diagnosticate slight or great pressure of a fragment of bone, the pressure of a small or a large hematoma, whether there is a momentary pinch of the cord or constant pressure. The fact that the cord looked normal in the two cases reported does not preclude the possibility that pressure had existed, nor prove that a condition had existed in which drainage and relief of pressure were not distinctly beneficial. The patients do not suffer from any ill effect of the operation *per se;* the dangers of operation are very slight compared to the possible benefit to be derived therefrom; and the further satisfaction is obtained that the surgeon knows that continued pressure does not exist.

The Treatment of Tracheotomy Wounds in Diphtheria.

A. E. Jones (*British Journal of Children's Diseases,* March, 1904) says the main lines of treatment are the following: The wound should be kept as aseptic as possible. It should always be covered with a double layer of aseptic gauze, which can be conveniently fastened at one corner to the sternum either by a spot of collodion or by a strip of Unna's zinc strapping. The tube should

be removed at as early a date as possible, more especially if any of the laryngeal cartilages be injured. One can usually take out the silver tube after twenty-four hours, and if another tube be required later on for a few hours more, a rubber one should be inserted. Every effort should be made to calm and reassure the child, and in some cases the administration of bromide of potassium is of use in very excitable children. The only contraindication to the use of heroic measures if the wound does not spontaneously close is a poisoned and dilated heart; when this is present, as it was in the author's case, one has to be very careful and proceed at intervals.

Ligation of Both Hypogastric Arteries in Inoperable Cases of Carcinoma of the Uterus.

Kosler (*Centralblatt f. Gynäkologie*, 1904, No. 15) reports six cases in which he ligated both hypogastric arteries, with the result that it relieved the profuse hemorrhage and discharge. The results of this operation do not warrant it in replacing a thorough curettement and cauterization, though in many cases it is to be preferred to the latter, especially in severe hemorrhage due to sloughing with erosion of the larger vessels.

MEDICINE.

Tuberculosis in the French Army.

At a recent meeting of the Paris Académie de Médecine, M. Kelsch (*Lancet*, April 30, 1904) made an interesting communication on the question of tuberculosis in the French army, as a protest against the opinion not long since expressed in the French Senate that he did not believe in the contagious nature of this disease. Four to five thousand young soldiers are invalided annually for tubercle, and on the supposition that each case carried contagion to at least ten persons, then the army is responsible for 50,000 cases of tubercle every year among the civil population. M. Kelsch contended that although tuberculosis is seen frequently in the army, yet contagion plays but a small part in its development; cases of "open" tubercle, the only ones which are really dangerous, are very rare in barracks, while patients with breaking-down lesions would be absolutely unable to carry out the hard course of instruction and training which a soldier's life entails. As a fact, elimination of the unfit takes place chiefly in

the first few months after joining the colors; elimination is rare in the second year, and quite exceptional in the third year of service. Observation shows that these numerous cases of tuberculosis are due to the awakening of lesions latent and unsuspected at the time the recruits join, such as fibrocaseous ganglia at the hilum of the lung or liver, old solitary tubercles of bone or parenchymatous tissues, which are found post mortem in nearly fifty per cent of young soldiers dying from other diseases.

M. Kelsch affirms that the greater number of soldiers invalided for phthisis during the first few months after joining the colors are in reality instances of the second stage of an affection of much older date than their arrival in barracks. What the young recruit finds in barracks is much less the bacillus of Koch than circumstances which favor the awakening and reappearance of the germ which has long lain dormant in his body—that is, fatigue from the training, insufficient food, exposure to all weathers, the strict discipline, etc., all depressing causes. Following the line of least resistance the microbe is forcibly drawn toward the lungs; these are put to very active work, either physiologically by the training or pathologically by the catarrhal affections of the air-passages, which so commonly mark the initial period of training, unfortunately fixed for the most inclement season of the year. The military authorities in Germany have at their disposition 1,200,000 or 1,300,000 individuals from among whom to select the annual contingent, while in France there are but 500,000 at most from whom to collect an equivalent number of men fit for service, and it is by this fact that M. Kelsch explains how it comes about that tuberculosis is two or three times less frequent in the German than in the French army.

Urticaria in Childhood.

B. Bendix (*British Medical Journal*, April 30, 1904) describes a case in which acute urticaria with edematous swelling of parts of the face invariably followed the ingestion of an egg. The child when first seen was thirteen months old, and had typical urticaria on the chin and cheeks and edematous swelling of the eyelids. The skin over the rest of the body was unaffected, and except for slight signs of rickets the child was healthy and well developed. The mother stated that the eruption had first appeared when the child was four months old, after she had given him egg albumen as treatment for intestinal catarrh. He had a

second similar attack from the same cause when he was seven months old, and the mother began to suspect the egg albumen as the cause, because between the attacks he had never tasted an egg. When he grew older and the milk diet began to be occasionally varied by an egg, it was found that urticaria always followed in whatever form the egg was given. Bendix found on three occasions that the reaction followed the administration of an egg in five, seven, and eight minutes respectively. On the last occasion the whole face became covered with typical wheals, the eyelids were swollen so as to half close the eyes, and the conjunctivæ were injected. There was much itching. The attack only lasted for a quarter of an hour. To prove that it was caused from absorption from the intestine, egg albumen was rubbed on the skin and gave rise to no reaction. The child was able to take the albumen of milk or meat without trouble.

Cases in which acute urticaria has followed the ingestion of a sound egg are very rare, but Baginsky gives two examples, both occurring in young children. These cases suggest the possibility that eggs may be harmful in the diet of adult patients suffering from urticaria, and that they should be forbidden absolutely at first, and only gradually returned to. The author has adopted this treatment for two chronic cases with success. The only local treatment he now employs for urticaria is the use of an ointment, of which anesthesine and menthol are the chief constituents, usually in equal parts. The ointment is applied after the child has been first bathed and rubbed with acetic acid and the skin allowed to dry. The itching diminishes in a few hours, and the swollen and reddened places dry up. Medicinal treatment by salicin, antipyrin, and calcium chlorate is adopted to prevent a fresh attack, and should these measures fail a course of treatment at Carlsbad or Kissingen may be tried.

Renal Tuberculosis.

Professor Kummell, of Hamburg (*Journal of the American Medical Association*, May 7, 1904), has performed forty-eight operations on the kidneys on account of tuberculosis out of his total of 260, all but fifteen of the forty-eight being women. In five the affection was bilateral. The others were treated by nephrectomy, and thirty-two are still alive after an interval of up to fifteen years. Some have been lost to sight. Kronlein has observed fifty-one cases of renal tuberculosis, about thirty per cent of all the kidney affections received in his clinic at Zurich.

All but thirteen were women. He thinks this preponderance of the female sex is due to the effects of pregnancy and menstruation, causing conditions which lower the resistance of the kidney tissue. The age ranged from twenty to forty in the majority. He removed the kidney in thirty-four cases. Eight of the patients died during the first nine months, and two after six and ten years, from tuberculosis of the lungs or of the other kidney. The twenty-four survivors are in perfect health to date, the interval being as long as fourteen years in some instances. He and Kummell both deny the possibility of an ascending tuberculosis of the kidney, regarding it as inevitably of hematogenic origin. He distinguishes several forms of tuberculosis of the kidneys—the soft, abscess variety, the firm caseous, the diffuse firm, and the tuberous, his experience with a single case confirming that of Israel's in regard to the grave prognosis of this latter form. In one instance he had occasion to observe a tuberculous embolism. A tuberculous young man, lifting a weight, experienced a sudden pain in the back, and his condition grew steadily worse. Extirpation disclosed a solitary tuberculous focus in the kidney, a hematogenic embolus. He is collecting colored plates of the findings in all the cases of kidney tuberculosis on which he operates, with a view to publishing an atlas of renal tuberculosis. Only twelve of the thirty-four were free from tuberculous lesions elsewhere. Nine of the ten subjects who have died since have been examined post mortem, and in six there was no evidence of tuberculosis in the remaining kidney.

Asylum Dysentery in Relation to B. Dysenteriae.

J. W. Eyre (*British Medical Journal*, April 30, 1904) says that a bacillus identical with B. dysenteriæ, described by Shiga as the specific cause of acute dysentery in Japan, can be isolated from the stools of many cases of asylum dysentery. The blood serum of some of these cases of asylum dysentery possesses a specific agglutinative action when tested against B. dysenteriæ isolated from the stools of other similar cases, and also against other strains of B. dysenteriæ isolated from cases of dysentery in tropical countries.

On the other hand the experience of an extended series of examinations of the stools of patients suffering from asylum dysentery permits the author to state that in order to detect the presence of B. dysenteriæ the stools must be examined when fresh. Post-mortem material must be collected and examined as

soon after death as possible, as after a few hours' delay even in quite acute cases B. coli becomes the predominant organism in the intestinal canal.

Under these conditions the isolation of B. dysenteriæ from the stools of patients suffering from acute asylum dysentery is comparatively easy by the methods indicated—when those stools are, naked eye, typically dysenteric.

In cases of chronic asylum dysentery B. dysenteriæ, if present, is so outnumbered by B. coli and other intestinal saprophytes as to render its isolation a matter of extreme difficulty.

Diagnosis of Typhoid Bacillus.

Ficker and Hoffman (*Archiv f. Hygiene,* No. 49, 1904) used a five-per-cent caffeine bouillon media and added crystal violet, which prevents the growth of saprophytic bacteria, whilst the caffeine prevents the growth of the colon bacillus. This medium was used successfully in the growing of typhoid bacteria in the stools of patients; after thirteen hours the culture was transferred to a Drigalski Conradi medium. With the combination of these two media it is possible to find the typhoid bacillus when the employment of the latter medium alone has failed. Successful results were always obtained in the examination of water. How the paratyphoid bacillus is acted on by the caffeine must be determined by future experiments.

Eosinophilia in Trichiniasis.

Schliefs (*Deutsche Archiv f. klin. Med.,* Bd. 80) finds that besides the examination of the muscles an examination of the blood is a most valuable aid in diagnosis in trichiniasis. In most cases a leucocytosis is present as well as a decided eosinophilia, whilst the neutrophile elements are reduced. In convalesence there is a marked increase in the lymphocytes and the blood-plaques; simultaneously with the disappearance of the eosinophiles the neutrophile cells gradually regain the normal.

Bacteriological Examinations in Erysipelas.

Krause (*Centralblatt f. Bakteriologie,* No. 6, 1903) in the desquamation of thirty-five cases of erysipelas could not demonstrate the streptococcus either microscopically in the experimental animal or by culture, showing that the danger of spreading this

disease in convalescence is very remote. The urine in the febrile albuminuria of erysipelas is sterile, and only in cases of hemorrhagic nephritis could the streptococcus be demonstrated. In sixteen light attacks he did not find the streptococci in the blood at all. In examining the fluid from the blebs he found eight cases in which it was clear and sterile.

THERAPEUTICS.

The Efficiency of Local Treatment as a Factor in the Cure of Laryngeal Tuberculosis.

R. H. Skillern (*American Medicine,* May 7, 1904) says local treatment is always beneficial even if it only relieves the most distressing symptoms—*i.e.,* pain.

It depends entirely upon the general condition of the patient what form of local treatment is most advisable.

While laryngeal tuberculosis in some cases may be entirely cured, there always remains more or less chronic laryngeal catarrh. Extensive surgical procedures in cases in which the lungs are deeply involved except as a palliative treatment are unjustifiable. Extensive curettement should only be employed in those cases in which there is a fair chance of curing the disease and when it is necessary to prolong life a short time. The prognosis depends more on the general systemic conditions of the patient than upon the throat lesion. It naturally follows that the more severe the throat lesion the greater the degree of constitutional weakness. If a case is seen at an early stage of its development, the prognosis is good provided of course the concomitant lung disease is responding to treatment. When there is much ulceration and loss of tissue absolute cure is impossible, but such an amelioration of symptoms may be brought about as to render the patient fairly comfortable for the rest of his existence.

The best results are obtained when the tuberculous deposit in the larynx is localized.

The Treatment of Inebriety by Atropine.

In an adult where there is no delirium or serious complications C. A. McBride (*British Medical Journal,* April 30, 1904) says he is in the habit of administering atropine sulphate, commencing at 1/200 grain three times a day, increased gradually during the first week until the pupils are affected and the mouth

becomes dry. In most cases 1/50 grain will be the maximum dose.

Strychnine nitrate given at the same time subcutaneously, in doses beginning with 1/60 grain, and rising to 1/20 grain in the majority of cases.

Fluid extract of red cinchona bark given every three hours in ordinary doses by the mouth. It will be obvious that in the administration of powerful drugs of this kind considerable judgment is required, and that in many cases it is needful to modify the above treatment. Auxiliary methods of treatment are also of great value, amongst which may be mentioned attention to the general health of the patient, the use of warm baths, special dietary, and regulated exercise. In cases where there is delirium, or when maniacal symptoms are threatened, as is only too common in cases of acute alcoholism, other remedies may be required. Even at the risk of somewhat lowering the strength it is generally advisable to administer a brisk purge at the commencement of treatment in order to remove imperfectly eliminated waste products.

Adrenalin in Neurotic Heart.

The following use of adrenalin in a case of neurotic heart is described by A. S. Myrtle (*British Medical Journal,* April 30, 1904): "A gentleman over seventy years of age had been very bad for four days and nights when my son suggested a trial of adrenalin. He had been using this (to me a new therapeutic agent) in cases of hemorrhage, external and internal, at the infirmary and in private practice. He had noticed that in cases where he had found the heart weak, the pulse feeble and irregular, before the adrenalin was given, after its use the heart's action got stronger, the pulse steadier, and whilst admitting that the improvement in these cases might reasonably be accounted for by the cessation of the bleeding, he advised a trial of the drug in this case, and prescribed 20 minims of adrenalin chloride solution every six hours. The pulse was so rapid, feeble, and irregular that it could not be counted; the patient complained of a dull pain with sense of weight over the heart, his expression was anxious, the face and ears ashen, the extremities cold, and the voice reduced to a whisper. After the second dose a little improvement was noticed, and this continued without a check after each dose; after the fifth dose the patient fell asleep in his chair, and in a couple of hours awoke feeling quite himself, but very shaky."

Influence of Local Applications of Cold on the Heart.

Krebs (*Berliner klin. Wochenschrift,* No. 17, 1904) finds that the application of cold to the cardiac region is beneficial to the patient, in so far that it improves the heart action, causing a slowing and increase in the blood-pressure. In those cases in which cold applications are made absolute rest is a necessity. In a number of cases the author gained no results, showing that this method has not come up to the standard of digitalis. The author supplements his article with a number of sphygmographs.

Treatment of Frost-bite.

Lentz (*Therapie der Gegenwart,* 1903, H. 3) has for a number of years treated frost-bite on the hands and feet with applications of alcohol. He obtained good results, and finds that after the third or fifth day all the symptoms subside and do not reappear. He uses 70 per cent alcohol, with which he saturates gauze eight layers in thickness; this is covered with a perforated protective material, and then with a bandage.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Eye-strain as a Cause of Headache and Other Neuroses.

Simeon Snell (*Lancet,* April 30, 1904) draws the following conclusions: (1) That eye-strain is the cause of a large proportion of headaches, often of a very aggravated character. (2) That various other neuroses are met with in association with headache, and among these may be mentioned the following: mental depression, nausea, indigestion, vomiting, insomnia, giddiness, choreiform movements of the eyelids and face, etc. (3) That relief is afforded to these conditions by correcting the error of refraction, which can be ascertained only after careful examination. (4) That for such examination a mydriatic is absolutely essential. (5) That frequently no complaint is made of defect of vision. (6) That the ametropia is frequently of low degree, 61.2 per cent of the writer's cases needing 0.75 D. cyl. and weaker.

(7) That a cylinder of 0.25 D. is of great value. (8) That anisometropia is frequently present and requires proper adjustment. (9) That in a certain number of cases the muscle balance is faulty and necessitates the prescribing of prisms.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Cases of Empyroform Dermatitis.

At the February meeting of the Boston Dermatological Association (*Journal of Cutaneous Diseases,* May, 1904) the following cases of empyroform dermatitis were reported:

Dr. Burns reported the case of a young Russian Jewess who had been treated at the Massachusetts General Hospital for more than a year for an obstinate psoriasis. He finally gave the woman a weak empyroform ointment (gr. 15 to oz. 1) to try on one arm. She applied the ointment at bedtime, and several hours later was awakened by an intense burning sensation in the arm to which the ointment had been applied. The following morning the patient returned to the clinic with the arm presenting a diffuse, moderately reddened area corresponding to the site of the application. There was no vesiculation, but the skin still burned and was somewhat tender to the touch.

Dr. C. J. White added a somewhat similar example in a case of psoriasis which had been treated at the Massachusetts General Hospital since 1898, when the eruption was universal. The patient had used upon the left arm ointment of empyroform 1, oxide of zinc 2, lard 30, while upon the other he had continued his application of chrysarobin and ichthyol. At the end of two weeks the man, suspecting that a diffuse, erythematous condition of his left arm signified a general return of his psoriasis, came to the clinic to show his condition. The arm to which the empyroform had been applied was universally reddened, while the other parts of the body presented the usual characteristics of a patchy psoriasis.

Dr. C. J. White alluded to another case of empyroform intolerance in a young woman who had subacute eczema of the hands and wrists. On one side she was using an ichthyol ointment, while on the other an ointment containing a drachm of empyroform to an ounce of lard. On the latter side a general redness

and slight edema with acute, pinkish papules developed, while the former continued in its previous condition. Later the empyroform was reduced to ½ drachm to 1 ounce of lard, and the eczema did so well that this application was extended to the other arm.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

On the Casual Nexus Between Genital Disease and Mental Affections in Women.

A. Raiman (*British Gynecological Journal,* February, 1904) in a revolt against the indifferent attitude of most authors on the above question, especially in regard to practical treatment, quotes the thesis originally put forward and recently insisted upon by Schultze, that in many cases alienation is due to genital disease, and that brilliant results may therefore be expected from expert gynecological examination of all insane women.

As yet, owing to the rare coöperation of alienists and gynecologists, no reliable statistics are available, and faith in the alleged casual nexus of the two forms of disease in question is based upon isolated observations, few of which are not open to objection, especially in regard to their ultimate results.

Raiman has had access to the plentiful material of Wagner's psychiatric clinic at Vienna, and reports upon the cases submitted to radical treatment, mostly in Schauta's clinic, during the last ten years. He gives sixteen more or less detailed histories with the conditions found on examination after many years, and gives his own conclusions as follows: (1) In every instance of mental disease in women the exact determination of the status somaticus must be completed by examination of the genital organs; (2) if any pathological condition which indicates treatment is detected by bimanual examination, it is imperative that the morbid condition should be cured; (3) at the same time in every instance the method chosen should be the most sparing to the patient, and when the indications for conservative and radical proceeding are equal, conservative measures should be adopted. It is particularly in the obscure field of reflex psychoses that Raiman hopes for valuable results from the adoption of these principles.

The Condition of the Blood and Renal Secretion in Eclampsia.

D. Zangemeister (*British Gynecological Journal,* February, 1904), with the object of determining whether eclampsia is the result of imperfect action of the kidneys, and therefore to be referred to uremic intoxication, has investigated the condition of the blood and urine during pregnancy and labor, and also in women suffering from the nephritis of pregnancy, in order to ascertain the normal conditions and determine the variations from such associated with eclampsia. The points investigated were, in regard to the blood, its alkalescence, number of corpuscles, chlorides, concentration of serum, freezing point, etc.; in regard to the urine, the acidity, phosphates, ammonia, and chlorides (especially important being the proportion of chlorides to total salts). The results of the examination of the blood gave no support to the etiology of eclampsia being uremic. The diminished alkalescence, the occasional increase in molecular density, and increase in amount of the crystalloid nitrogenous material, are to be considered as accidental phenomena, partly due to the diminished diuresis generally associated with the disease. The most remarkable peculiarity in the eclamptic blood is the enormous variations in the red corpuscles and the volume of the plasma. On the average the blood contained more red corpuscles, sometimes a very large excess. This hypererythrocythemia can only be explained on the supposition that the circulation is so seriously disturbed in this disease that the plasma escapes from the vessels. Renal anemia was found to be a constant associate, but not the cause, of eclampsia. The most important etiological factor in the disease is, in Zangemeister's opinion, to be found in the uterus and its contractions.

Menopause at Nineteen.

A very remarkable case is described by D. Hartman (*British Gynecological Journal,* April, 1904). The patient was an artist's model, aged twenty-four. At fifteen the catamenia appeared and were regular; six months later she cohabited, and the periods ceased for four months, so that pregnancy was suspected, but they returned and became regular, painless, and scanty, as before, lasting only for a day. When the patient was nineteen they ceased abruptly. In the course of the next year she was troubled with flushings, replaced a year later by attacks of sickness when

she lowered her head. When twenty-two the gastric symptoms ceased, and painful periodical swellings of the breasts occurred. These attacks ended within a year, and since then the patient has had no local or constitutional troubles. The uterine body was found to be ill developed. Otherwise there was no abnormal condition in the genital tract or elsewhere.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
Attending Neurologist to Harper Hospital.

Etiology of Tabes Dorsalis.

Arthur Conklin Brush, in the *Journal of the American Medical Association* of April 2, 1904, writes upon the etiology of tabes dorsalis. He is less a believer in the specific origin of the disease than are many observers. He does not at all believe that because *post hoc* therefore *propter hoc*. He cites that syphilis is common among the Japanese and negroes, while tabes is rare, and he would lead us to infer that the longer period of freedom from specific manifestations which is wont to follow the earlier lesions before there are any suspicions of tabes ought to throw doubt upon the causal relation of the antecedent. Most writers we think look with great suspicion upon the claim as to the traumatic origin, and he quotes Prince to the effect that "there is no published case which meets with the requirements of certainty;" he also quotes Gowers, on the other hand, to the effect that "one of the causes which can sometimes be clearly traced is injury," and Golebiewski to the effect that "the exciting trauma in tabes may act centrally or peripherally. The central injuries are hemorrhage into the cord, concussion or contusion; fractures or dislocation of the spine, and contusions of the lower extremities." He then goes on to cite seven different cases of which he himself had knowledge, in which severe injury had preceded the tabes, and in which there was no other apparent cause.

He cites the remaining alleged etiological factors as: (1) Toxins formed in the body as the result of some contagious disease; (2) toxins formed as a result of perverted metabolism; and (3) those factors which act by lowering the general vitality.

He concludes his article as follows: "To sum up, then, it appears from our present knowledge of the etiology that tabes dorsalis can be as clearly attributed to other causes as to syphilis."

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ORIGINAL CONTRIBUTIONS.

THE SURGERY OF THE PROSTATE.*

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Mr. President, and Members of the Ohio State Medical Society: While deeply appreciating the honor you have done me in inviting me to address you, I nevertheless realize fully the difficulty of fulfilling my obligation. Western medicine and surgery is so thoroughly *en rapport* with scientific advancement that it is not easy to say anything with which the members of so progressive an association as yours are not already more or less familiar. The fact that you have in your ranks men who have distinguished themselves in regional surgery is an additional handicap. I have, however, taken the liberty of selecting a subject which is decidedly a live one at the present time, and in which I have for many years taken special interest, and have done considerable work.

The time has arrived when one may approach the subject of prostatic disease with full confidence that his professional auditors are ready to accept the surgery of the prostate as a legitimate branch of surgical endeavor. The prostate is no longer a *noli me tangere*. Its diseases are no longer regarded with hopeless pessimism. The technique of prostatic operations has not yet been so thoroughly perfected that we have no more worlds to conquer, but it has most assuredly been so far developed that it will bear favorable comparison with other fields of operative work.

*The Oration in Surgery before the Ohio State Medical Society, Cleveland, May 19, 1904.

One of the most important subjects in the entire range of genito-urinary disease is the various inflammatory affections of the prostate in their relations to the surgery of the organ. No discussion of the management of prostatic disease is complete without their consideration. When the far-reaching effects of gonococcal infection of the urethral adnexa in the male were discovered, the surgery of the genito-urinary organs advanced with a tremendous stride. The growing belief that inflammations of various kinds occurring in early life bear an etiologic relation to prostatic obstruction occurring later on, lays especial emphasis upon the importance of the subject of prostatic infections. The frequency with which the prostate becomes involved in gonorrhea is not fully realized even now, especially by those who lay particular stress on posterior urethral infection. It has been said that fully eighty per cent of gonorrheics are affected sooner or later by posterior urethral infection. This I believe to be an exaggeration; still it is very difficult to formulate statistics upon this point, for the reason that the genito-urinary surgeon, who gets the protracted, complicated, and chronic cases, rarely has the opportunity of comparing statistical notes with the general practitioner and dermatologist, into whose hands a large proportion of the acute cases, and especially those of the simpler type, naturally fall.

I have laid down as a broad general proposition the following, viz., that acute or subacute gonorrheal inflammation of the posterior urethra is essentially prostatitis. I do not believe it possible for a virulent inflammation of the posterior urethra to occur without infection of the prostatic glandular tissue in greater or less degree. The affinity of the gonorrheal microorganism for glandular structures is so well known and so justly admitted that it is surprising to me that there can still be found authorities who believe that virulent gonorrhea may attack the posterior urethra and limit itself to that part. A knowledge of the special susceptibility of secreting glandular tissue to gonococcal infection, associated with a knowledge of the anatomy and physiology of the prostate, should, it seems to me, be all-sufficient to substantiate the position I have taken, namely, that posterior urethritis is in by far the majority of cases, and in all acute cases, prostatitis of greater or less degree of severity and extent of involvement.

Considering the number and size of the openings of the prostatic ducts upon either side of the verumontanum, and the close relation of the ejaculatory ducts to the area involved in

posterior urethritis, it would seem impossible, in the presence of an infection of even slight degree of virulency, that involvement of these various secretory outlets upon the floor of the prostate, with subsequent extension to the prostatic glandular tissue proper, and perhaps to the testicle, should not occur. The aspirating effect of the contraction and relaxation of involuntary muscular fiber of the prostate, and of the muscular perineal structures surrounding the organ involved in the physiologic expulsion of fluid at various times, is an additional factor which favors infection. In this expulsive act secretions are drawn from the anterior urethra into the prostatic urethra, and if infection of the latter region exists, involvement of the posterior urethra—and very soon thereafter, if not immediately, prostatic infection—is well-nigh inevitable. This explains why sexual indiscretion, in the presence of acute or subacute gonorrhea, is followed so often and so speedily by prostatic, vesical, or testicular complications.

At this juncture I wish to emphasize the fact that by the time the deep urethra and prostate are involved, gonorrhea is a mixed infection. This explains the special danger of suppuration of the prostate and its environs that occurs in deep-seated gonorrhea. The frequency with which suppuration of greater or less extent occurs in the prostate is not realized by the profession at large, nor, I believe, even by many authorities upon genito-urinary surgery. The recurrent discharge that occurs coincidentally with the subsidence of symptoms in acute prostatic inflammation I have long accepted as meaning in a large majority of cases the evacuation of a small abscess, which, perhaps, no means of exploration would have served to discover. I have no doubt that there are many present who have noted cases of acute prostatic inflammation, perhaps with retention, in which no symptoms of abscess, either objective or subjective, existed, and in which pain, temperature, frequency of micturition, and strangury have disappeared suddenly, coincidentally with recurrence of urethral discharge. The popular tradition that the reappearance of the discharge is beneficial in such cases, and an indication of the subsidence of the prostatic inflammation, is as old as the hills. The explanation which I have offered is, however, not generally advanced. The importance of watching the progress of acute prostatitis very carefully to forestall the possible accumulation of a quantity of pus sufficient to endanger the life of the patient cannot be overestimated. I am satisfied that many cases of prostatic suppuration, in both acute and chronic disease of the organ, have been allowed to

die without relief, simply because the practitioner was not alive to the suppurative possibilities of prostatic disease. The difference between the case of extensive prostatic suppuration that survives and the one that dies lies oftener than not in the fact that in one class of cases the abscess ruptures spontaneously and in the other it does not, rather than in the skill of the physician in charge of the case which recovers.

In the course of twenty-five years of experience I have met with a large number of cases of old men with acute retention who, as a consequence of catheter traumatism and infection, developed prostatic abscess. In some cases the abscess was detected. More often it was not discovered, nor its existence even suspected, until spontaneous rupture occurred, or the patient died without rupture, the post-mortem alone revealing the actual conditions.

One of the most interesting cases that ever came under my observation was that of a young subject with acute gonorrhea, who died, and was taken to the post-mortem table with a diagnosis of typhoid fever. The autopsy disclosed, not enteric fever, but a huge prostatic and periprostatic abscess, which, beyond possibility of doubt, was the cause of death.

The smaller abscesses occurring in the prostate in the course of acute gonorrheal infection are often the most troublesome, because while we may suspect their existence we find no objective symptoms that seem to warrant a cutting operation. Indeed, even if we knew that the prostate contained a drachm or so of pus, there is a question in my mind whether we would be justified in seeking for it unless its precise location were discovered, save in instances in which the local symptoms are so severe as to imperatively demand surgical intervention. This is rarely the case in the small abscesses, because by the liberal use of anodynes we can usually control the severity of the symptoms until such time as the abscess ruptures spontaneously, which, fortunately, it eventually does as a rule, and in the direction of least resistance and greatest safety to the patient, namely, into the prostatic urethra.

Cases in which a collection of pus is discoverable should, of course, not be temporized with. Cases in which the constitutional symptoms are severe and almost pathognomonic of suppuration demand surgical intervention, but cases in which there is comparatively little swelling of the prostate, even if associated with severe strangury and frequency of micturition, with perhaps reflex pains in the cord and lumbar region and testes,

should not be interfered with surgically, providing the constitutional symptoms are not marked. In the majority of such cases there will be a sudden recurrence of the urethral discharge, with an almost complete subsidence of the annoying symptoms. Fortunately for the patient, the tendency of even abscesses of considerable size is to burrow in the direction of the prostatic urethra, which, as I have said, is the direction of least resistance, save where the periprostatic tissue is involved. Here the direction of least resistance is always from the tough capsule of the prostate, not toward the urethra, but toward the rectum and pelvic cavity. It is such cases that are most likely to lead to the death of the patient unless surgical intervention is resorted to. Cases of obstinate retention in prostatic inflammation are to be looked upon with suspicion, whether definite symptoms of suppuration be present or not. So far as my own experience goes, I have been led to conclude that in such cases the obstinacy of retention is usually explicable by the presence of a greater or less collection of pus. Should this collection of pus encroach upon the urethra, it need not be very large in order to produce complete retention.

With reference to the method of evacuation of pus from the prostate, I will state that I have long since ceased to operate from the rectal side of the abscess. Where the collection of pus is not definitely outlined, or I am operating upon suspicion, I prefer the inverted Y incision, so often used in prostatectomy, as affording the most room for the exploration of the organ.

I have often been surprised in operating upon prostatic abscesses of long duration by the rupture of the sac into the prostatic urethra, under the mere pressure of my index-finger, the operation being thus completed without any further cutting than a perineal section. I have found considerable collections of pus surrounding the prostatic urethra, the pus in several instances dissecting cleanly, the urethral walls traversing the abscess cavity as a well defined tube, although by digital exploration by the rectum I could not detect any point of fluctuation. Here I was compelled to operate upon suspicion, basing my opinion as to the necessity of surgical intervention upon the severity of the inflammation, the extent of the prostatic swelling, the obstinate retention, and constitutional symptoms, recurrent chills, fever, and sweating. In cases of this kind it is rather unfortunate to have the abscess rupture under the exploring finger, for it makes perfect drainage of the cavity very difficult. It is better in such cases to cut through the prostatic capsule,

and by blunt dissection evacuate the abscess from the prostatic rather than the urethral side.

A special point which I desire to mention in the surgical consideration of the prostate is the question of the existence of prostatic obstruction independently of so-called hypertrophy and acute or chronic inflammation. I well remember the statement of the late Sir Henry Thompson, made many years ago, that there was not in all the museums of Europe a single specimen illustrating stricture of the prostate. It is obvious that if we exclude from consideration congestive, inflammatory, hyperplasic, and hypertrophic obstructions of the prostatic urethra, due to diseases of various kinds, stricture of the prostatic portion of the canal must certainly be very rare. A neoplasm, or even pus, however, pressing upon the anterior urethra and occluding its lumen produces what, for want of a better term perhaps, we term stricture. The same condition occurring in the prostate it not so designated. Admitting, for the sake of argument, the logic of this difference in nomenclature, I desire to call attention to the fact that congenital obstructions of the prostatic urethra are occasionally found. In dissecting at random a large number of prostates and bladders I found four congenital strictures of the prostate. These consisted in several instances of flaps and bands of prostatic mucous membrane, reënforced by connective and prostatic muscular tissue. In two instances that I recall a distinct fleshy band traversed the prostatic urethra obliquely from roof to floor. The band in each instance was composed of muscular tissue covered by mucous membrane, and resembled in a general way the columnæ carnæ of the heart.

I have met with no less than six instances of constriction of the prostatomembranous junction, of a congenital character. In several instances the opening in the prostate was deflected markedly from the median line, being barely covered in laterally. The anatomic arrangement was such that the membranous urethra joined the prostatic urethra at what might be termed a slight angle.

I am satisfied that these congenital anatomical coarctations occur more frequently than is ordinarily supposed, and explain a certain proportion of cases of difficult instrumentation. What relation, if any, they bear to the different forms of prostatic obstruction I do not know.

Another condition occasionally found is fatty degeneration of the prostate. This occurs to a certain extent in normal senile

prostates. It is more often met with in alcoholics. I have found it in several cases of retention in patients who died of acute alcoholism. Its surgical importance lies in the fact that it is always associated with fatty degeneration of the vesical wall. Even slight temporary retention under such circumstances gives rise to permanent atony. Instrumentation is dangerous, because the vesical walls are easily penetrated, and rupture may occur, as proven by one instance of a patient who died from acute alcoholism, with retention, and the bladder was found spontaneously ruptured. In this case there was no known traumatism, although I admit that traumatism was suspected. Should traumatism occur with a full bladder under the circumstances described, rupture would be almost inevitable.

Increasing experience in the field of prostatic surgery and pathology strengthens my belief that much of the old-time views was rubbish, especially with reference to the etiology of prostatic hypertrophy. The senile theory, as applied to prostatic disease in advanced life, has wrought incalculable harm both to surgery and to sufferers from prostatic obstruction. Even to-day, the principal obstacle in the way of the application of modern surgical technique to diseases of the prostate is the fatuous notion that prostatic enlargement is incidental to advanced life, and in many instances inseparable from it. This fallacious idea, I regret to say, is not confined to the laity, but the rank and file of the profession is still imbued with it. The consequence is that when urinary symptoms develop at or beyond middle age, patients are likely to delude themselves with the idea that all old men are liable to be similarly troubled. So far from general adoption are the principles of modern surgery, as applied to the prostate, that the family physician is still very likely to console the patient with the statement that his ailment is merely an incident of advancing years. I long ago claimed that the enlarged prostate is not a senile prostate. The normal prostate atrophies in old age. It is a sexual gland, and as its function falls into desuetude its circulatory and nutritive activity lessens, and a shrinkage of the gland finally results. I recall a recent demonstration of the operation of prostatectomy upon the cadaver which was not a brilliant success, because the subject, a man nearly seventy years of age, had absolutely no prostate upon which to demonstrate the operation. I took great pleasure in calling attention to the subject as the possessor of a true senile prostate.

The relation of senility to prostatic obstruction is simply this:

The conditions which produce the disease are operative, or begin to operate, some years before enlargement of the organ is manifest. The patient arrives at or considerably beyond middle life before the prostatic enlargement is sufficient to produce symptoms calling his attention to his condition. In many instances very advanced age is attained before symptoms develop. This is a matter of common observation.

In speaking of the relatively early period at which the conditions causative of prostatic hypertrophy develop, I will reiterate what I have previously said, that chronic congestion on the one hand, and infections of various kinds upon the other, play a very important rôle in the etiology of so-called senile hypertrophy of the prostate. Congestion leads to connective tissue hyperplasia, and infection to glandular inflammation here as elsewhere. Secondarily, the adenomatous tumors formed as the result of glandular overgrowth, acting as foreign bodies, produce irritation and pressure congestion, which lead to proliferation of connective tissue. From this premise it is obvious that prostatic enlargement may present varying proportions of glandular and fibroconnective tissue, which proportions are determined largely by the age of the process. The important deduction which should be drawn from a knowledge of the early beginning of prostatic disease is that the urinary history of the male should be supervised more carefully than it is. In the majority of instances in patients of advanced years the symptoms will be found upon inquiry to have extended over a period of many months, or perhaps many years, even in cases in which the patients state offhand that their trouble has but recently begun. By a careful supervision of the urinary apparatus in the male, with a due appreciation of the early period of development of prostatic disease, the surgery of the organ may be greatly advanced. Cases will not be selected for operation because they are in such desperate condition that nothing else offers any hope of relief, but they will be turned over to the surgeon for operation early in the history of the prostatic obstruction, long before secondary infection and other complications have occurred, and at the period most favorable for operation. That the operation of prostatectomy is indicated in all cases in which increasing enlargement of the prostate is noted after middle life, whether symptoms have yet developed or not, is evident enough to all who have had experience in this particular field of regional surgery.

When the radical operative treatment of prostatic obstruc-

tion has been generally accepted by the profession as not only warrantable, but imperatively indicated, this particular field of genito-urinary surgery will perhaps assume a plane comparable to that now occupied by ovariotomy, and cases will be operated upon so early that we will be able to formulate statistics of value. I am of opinion that the statistics up to the present time are almost valueless because of the widely varying ages and conditions of patients operated upon, the differences of opinion regarding surgical technique, and the varying capacity of operators. I do not know of a field in which the individual equation of both operator and patient are more important than in the surgery of the prostate.

With the indulgence of the Society I will devote some special attention to the indications and technique of prostatectomy, in the belief that this part of my subject is the one which most appeals to you at the present time.

I believe that the time will arrive when the profession will accept the mere existence of permanent prostatic enlargement after middle life as an indication for prostatectomy, just as it is held in some quarters that the existence of appendicitis is an indication for the removal of the appendix. Referring back to the subject of ovariotomy, the profession has accepted the dictum that the existence of an ovarian tumor, however small, is an indication for immediate operation. Time was when the statistics of ovariotomy were not very comforting, simply because operations were performed only in extreme cases. The wonderful statistics of the operation at the present time are familiar to all of you.

I will reiterate what I have already said as to the necessity of careful supervision of the urinary apparatus in the male, in order that the early discovery of prostatic enlargement shall be practicable. It is often argued that many cases of prostatic enlargement in men at or above middle life are not incompatible with long life, free from symptoms of obstruction of the urinary way. But given a considerable number of cases of prostatic enlargement discovered before symptoms have developed, progressive increase in the size of the prostate and eventual obstruction to the urinary outflow is inevitable in such a large majority of the cases that the few who escape should not weigh very heavily in the balance, especially when we consider that early operations are not especially dangerous. The difference in the prognosis between cases in which serious septic and renal complications have occurred with advancing years and those operated

upon before these complications develop is so vast and so obvious as not to require comment. Under favorable conditions the mortality of prostatectomy should be trifling.

Has palliative treatment any standing at the present day in the management of enlarged prostate? There is a considerable number of cases in which operation is not to be thought of. In patients who are not only very advanced in years, but have been habituated to the use of the catheter for a prolonged period, with resultant comfort, a radical operation is usually neither indicated nor warrantable. Patients who develop retention for the first time at a very advanced age should, as a rule, not be operated unless it is found to be impossible to relieve them by catheter palliation. Thus a man seventy-five or eighty years of age, who has been using the catheter comfortably for many years, or who has recently been attacked by retention for the first time and can be made comfortable by the use of the catheter, is hardly a fit subject for operation. The prostatique with serious renal disease usually serves merely to swell the mortality of the operation.

It is obvious that the age of the patient alone is not the crucial test of the hazard of operation. The condition of the heart, arteries, and kidneys is all-important. The very old man with a history of a recent first attack of retention may endure operations which would be likely to prove fatal to a much younger man whose heart, arteries, and kidneys are unsound and bladder septic. In brief, the individual equation is nowhere more important than in prostatectomy.

I would class as a dangerous palliative procedure the Bottini method. I assumed a conservative attitude toward the operation from the first. Time has justified my position. I believe the cautery operation is more dangerous than perineal prostatectomy, and decidedly unsatisfactory by comparison with the latter. It is at best not to be considered as radical in its results save in a limited number of cases in which a bar exists at the vesical neck, or the prostate is enlarged in a collar-like fashion about the vesical outlet. The orthodox Bottini is scarcely to be thought of, in my opinion. When the use of the cautery is combined with a perineal opening, it is warrantable in suitable cases. The perineal opening facilitates manipulations and readiness of access, and enables the operator to check hemorrhage and drain properly. Even where simple division of circular or bar-like obstructions at the vesical neck is alone required, other means than the cautery are usually to be preferred. Division with knife

or scissors, or with a "string saw" patterned after Abbe's ingenious device for the esophagus, has proved very satisfactory in my hands.

The once lauded testicle and cord operations for the cure of prostatic obstruction had the center of the stage for some time and served to emphasize the necessity of caution in accepting offhand the dicta of surgical enthusiasts in new fields of operative endeavor. The rise and fall of the operations of castration and vasectomy were worthy of the satire of a Moliere or a Smollett. The suddenness with which the more formidable operation of prostatectomy was substituted for the testicle and cord operations in certain quarters was very suggestive. Thus one eminent surgeon in a series of operations reported seven vasectomies with five cures, and immediately jumped into prostatectomy, an operation which would have been gross malpractice had his results from vasectomy been all that he claimed them to be.

Should testicle and cord operations in the treatment of prostatic obstruction be discarded *in toto?* I think not. Castration should be relegated to the dark ages of prostatic surgery, but vasectomy should be retained as a palliative procedure. It is justifiable (1) in cases in which the radical operation will not be submitted to or for any reason is not deemed wise; (2) in cases in which severe vesical hemorrhage has occurred, and it is thought best to defer radical measures until improvement in the patient's general condition is shown. Vasectomy does not cure, but it palliates sufficiently often to give it a certain range of usefulness in the management of prostatic obstruction.

SELECTION OF OPERATION.

I am of opinion that no operation can be logically applied as a matter of routine. Perineal prostatectomy is, however, without question the ideal operation where it is applicable, and fortunately it is applicable in a vast majority of cases. There is a certain limited range of cases, however, in which the development of prostatic overgrowth is chiefly or entirely toward the vesical cavity. In some of these cases, especially where the perineum is short, fat, and deep, it is only with extreme difficulty that even the attachments of the tumors can be reached perineally. Here the suprapubic or combined suprapubic and perineal methods should be resorted to. Where complicating stone of large size exists, the suprapubic or combined routes are indicated.

With reference to the superiority of the perineal route, I

believe I am justified in a somewhat positive opinion, for the reason that I entered the field of suprapubic prostatectomy very soon after its feasibility had been established, and until ten years ago performed it as the operation of election. In a number of instances prior to 1893 I had done the combined operation. In 1893, however, I began operating by the perineal route in occasional cases, but not until the quite general adoption in this country of the perineal operation did I become convinced that it should be the operation of election.

The incision in perineal prostatectomy has received considerable attention at the hands of various operators, and many and conflicting opinions have been advanced as to the proper form of incision. The inverted Y was formerly a favorite with me, and in cases of hard, fibrous prostates, removable only by morcellement, it still appeals to me as the incision that gives readiest access to the organ. In a large majority of cases, however, the prostate is best approached by means of a short median incision, the overgrowths being removed from the urethral side.

It has not been my fortune to escape fatalities, failures, and disagreeable accidents in the operation of prostatectomy. You are all familiar with the reports of large series of operations without a failure, and without a death. I have not yet succeeded in subverting the pathology of the prostatique to my own surgical desires. I have no hesitancy in affirming my belief in this presence that the most careful selection of cases for operation and the most perfect technique do not controvert the fact that the majority of patients upon whom we are privileged to operate at the present day are not only advanced in years, but have septic bladders, and a greater or less degree of secondary disease of the kidney. Knowing as we do that, to use an Irish bull, we sometimes kill prostatiques by curing them—*i.e.*, by removing the obstruction which has been damming back the urine—simply because we thereby disturb the circulation of the kidneys, which have adapted themselves to the *vis a fronte* afforded by the obstructing prostate, are we not justified in being somewhat skeptical regarding large series of successful operations attended by no fatalities? In the light of our knowledge of the condition of the senile bladder of the average prostatique, are we not further justified in being skeptical regarding reports of operators whose work is always followed by a complete restoration of the function of the bladder? I do not believe it possible as yet to operate upon a large number of cases of pronounced prostatic enlargement without having a certain proportion of unsatis-

factory results incidental to a permanent loss of function of the bladder, with perhaps a paralysis of the vesical sphincter, which the manipulations necessary in the removal of a greatly enlarged prostate sometimes render inevitable.

The perineal method of operation should of necessity be followed more frequently than the suprapubic by incontinence of urine, on account of the greater disturbance of the vesical sphincter.

The perineal operation with the median incision and the removal of the prostatic overgrowths by enucleation with the finger from the urethral side, the prostatic capsule being entered through the lateral urethral walls, should rarely be followed by urethrorectal fistula, an accident that must occasionally occur where the operation is performed with the Y incision and exposure of the rectal side of the prostatic capsule. It is by no means necessary that the rectum be traumatized, or at least cut or torn, in order that a urethrorectal fistula shall form. I have had a case in which the rectum was intact until the eighth day, when a small buttonhole sloughed through, and a urethrorectal fistula formed. In another case infection of the wound occurred, with a slight amount of sloughing along its track, and on the twenty-first day a buttonhole sloughed through the rectum high up near the vesical neck. In one of these cases I was able to cure the fistula by subsequent plastic operation. In the other the patient, although comfortable and apparently restored to health, is still evacuating his urine by the rectum. On account of the advanced age of the patient, his comfortable condition, and the difficulty of access to the fistula, which, as I have already remarked, is high up in the vicinity of the vesical neck, an operation for the relief of the latter has not been considered wise.

The question of drainage after perineal prostatectomy is an important one. I am aware that some very able operators claim that drainage is unnecessary, but it would be pretty difficult to convince me that the highly septic urine found in many cases of prostatic enlargement should be permitted to come in contact with the freshly traumatized tissues in the track of the wound, where it is possible to prevent it. I do not believe that drainage should be kept up for a prolonged period, but I feel confident that it is safer to drain by a fairly rigid tube, surrounded by light gauze packing, for the first few days after a prostatectomy.

To sum up what I believe to be the correct attitude toward prostatic enlargement:

1. Prostatic enlargement is not a senile condition, in the strict

sense of the term, its causes prevailing at a period of life much earlier than the development of the symptoms. Infection and chronic congestion are important etiologic factors, occurring at a relatively early period.

2. Prostatic surgery will never be developed to a plane even approaching perfection until the profession at large understands the necessity of a careful supervision of the genito-urinary apparatus in the male, permitting of early discovery of prostatic obstruction.

3. Operations upon the prostate prior to the development of septic complications in the bladder and kidneys, and prior to pressure changes in the latter organ, are not necessarily formidable.

4. The indication for operation is the existence of a prostatic tumor, this being qualified only by delay in the discovery of the condition, and the supervention of serious complications. Under the latter circumstances palliation may be required.

5. Palliation by the catheter or by vasectomy is only to be considered in cases in which, for one reason or another, a radical operation is absolutely contraindicated. Catheter life should never be begun save with the understanding that the expectancy of life is relatively short, probably on the average not more than five years.

6. Cases in which prolonged and comfortable catheter life has been shown to be practicable are to be accepted as merely exceptions to the rule as to the diminished longevity of the catheter victim.

7. No operation can be used in all cases as a matter of routine.

8. Perineal prostatectomy, skilfully performed, is the operation of election.

9. The statistics of operations upon the prostate up to the present time are not of great value, because of the wide variation in the skill of operators, and the age and condition of patients.

10. As cases are nowadays brought to us for operation, a greater or less percentage of fatalities, accidents, and unsatisfactory results must be expected. No method of operation has yet succeeded in revolutionizing the old man's pathology. Ideal conditions for the radical surgery of the prostate will not prevail until the average age of patients submitted to prostatectomy is many years below that of the patients upon whom we are at present operating. The age of the patient is, however, not so important as the length of time since the beginning of catheter life, or of serious symptoms. The old man of seventy years of

age, who has had his first attack of retention within a few weeks or even a few months, is a much more favorable subject for operation, other things being equal, than a man some years younger, who has had many attacks of retention, and a more or less prolonged catheter life.

PAPILLOMA GIGANTICUM OF THE GENITAL TRACT.*

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Among the numerous forms of papillomata invading the genitalia and its adnexa, that of papilloma giganticum deserves special consideration, since its presence not infrequently proves to be a source of incessant annoyance and irritation and obstinately resists any and all methods of therapeutic intervention. During the period of senile decadence or the presenilic state it may harbor in its benign crypts the germs of malignancy, and thus constitute another far-reaching, formidable, and extremely dangerous causative factor. In the subjoined elaboration of the subject under discussion the author has striven to keep within the limits of positive knowledge of this dermatosis, discarding theories and speculations having little or no practical bearing on this topic.

Papilloma giganticum attacks most often the mucous membrane of the prepuce and glans penis, as well as the cutaneous surface of the former. The ischiorectal space, perineum, the inner aspect of the thighs, the labia and even the introitus vaginæ in the female, may be the seat of this variety of papilloma; it may assume enormous proportions, reaching at times the size of a hen's egg. The anal region is a very favorite location of papilloma giganticum, which it may completely encircle. It gives rise to subjective disturbances, as smarting, pricking, burning, and itching, and may thus occasion a great deal of discomfort, bordering on actual suffering.

The *etiology* of this variety of papilloma is rather obscure; venereal diseases do not seem to have much influence over its production, for very few individuals, the subjects of this morbidity, are the recipients of venereal affections. A tight prepuce and the irritation attendant upon retained smegma, lack of cleanliness of the preputial cavity, and the existence of herpes progen-

*Read before the Alumni Association of the Michigan College of Medicine and Surgery.

italis serve as predisposing agencies toward the formation of this and other kinds of vegetations. In one case, which recently came under the observation of the author, the malady seemed to have been inaugurated by preëxisting chancroidal ulcerations. Simple, non-specific abrasions or ulcerations are not infrequently conducive to the same outcome. Rectal diseases, as hemorrhoids, fistulæ in ano, fissures, polypi, and neoplasms of the rectal mucosæ are credited with its production. Nervous disorders of various types, as hysteria, neurasthenia, general paralysis, tabes dorsalis, functional neuroses of divers kinds, psychopathic states in general, and disturbances of the vasomotor nervous apparatus, are known to be accompanied or followed by papillomatous excrescences of the above variety in the aforementioned regions. The pregnant state is a potent predisposing cause. Vaginal affections and pathologic conditions of the uterine canal are etiologic factors known to have been instrumental in the creation of this form of wart.

The *pathology* of papilloma giganticum may be summed up in the following brief description: The papillæ of the corium are found to be enormously enlarged and the interstices of the stratum mucosum filled with large pigment granules of an abnormal type; there is also a hyperplasia of the different layers of the stratum corneum. The color of this papilloma varies from a yellowish-gray to a dirty brown, with variable shades intervening; others may assume a greenish hue.

The *treatment* consists in the extirpation of these growths by the knife. The actual or electrocautery may be tried, but proves of little or no avail in this affection. The value of chemical escharotics is rather questionable, still a trial of some of these may seem to be justified in the face of opposition to more radical measures. Before applying any medication the patient must be enjoined to keep the genitalia and the adjacent parts scrupulously clean. Bathing the lesions with a weak solution of boric acid, as hot as it can be borne, acts not alone as a valuable detergent, but is also curative in some cases. After washing the papilloma with the above mentioned solution, the appended drying powder may be dusted on:

℞ Aristolis .....dr. ½ (gm. 2.0).
Bismuthi subnitratis .....dr. 2 (gm. 8.0).
Magnesii silicatis .....dr. 5 (gm. 20.0).
M. et ft. pulv. Sig.: Use as a dusting powder.

This is a very mild application, and acts beneficially only on the smaller warts.

The following solution is of greater efficacy:

℞ Ac. tannici .....dr. 1 (gm. 4.0).
Adrenalin solution (1:1000).....dr. ½ (Cc. 2.0).
Tr. benzoini comp.....q. s. ad dr. 4 (Cc. 16.0).
M. Sig.: Apply with a camel's-hair brush every alternate day.

In case the excrescences seem rebellious to the above procedure, more potent remedies may be employed, namely:

℞ Acidi salicylici .....dr. ½ (gm. 2.0).
Adrenalin solution (1:1000).....dr. ½ (Cc. 2.0).
Resorcini .....gr. 20 (gm. 1.30).
Liq. guttæ perchæ.....q. s. ad dr. 2 (Cc. 8.0).
M. et ft. sol. Sig.: Apply with a camel's-hair brush once or twice a week.

Or the above ingredients may be used in the form of a paste with an indifferent or slightly astringent ointment as a base. Fatty substances, however, do not seem to act very favorably in papillomatous conditions in general, as they are apt to macerate the parts and are prone to undergo decomposition, *i.e.* rancidity, hence inducing greater irritation and aggravating the already existing evil. After three or four applications the warty growths exfoliate, and if the treatment is diligently persevered in they ultimately drop off. If pain is experienced during the exhibition of the above applications, a few grains of the hydrochlorate of cocaine may advantageously be combined with the preceding formulæ. Strong solutions of silver nitrate (40 grains to the ounce) may also be tried with a view to destroy the vegetations. Applications of copper sulphate are very painful and necessitate the previous employment of a local anesthetic. The same may be said of nitric acid, which, if used without the aid of the latter, is one of the most barbarous and painful modes of treatment. If the papilloma be due to an elongated or constricted prepuce, circumcision is imperative, after which the lesions, by the use of mild and simple detergents, gradually retrogress and restitution is finally established.

Concomitant affections must be remedied; pathologic conditions within the rectum must be completely removed and uterine abnormalities corrected. During the periods of senility or presenility no procrastination should be suffered, but the lesions subjected to a painstaking scrutiny, their progress kept constantly under surveillance, and if any suspicious symptoms arise their removal demanded without undue delay and dalliance. If this is denied, recourse must then be had to the Roentgen rays or radiotherapy, or the actual or electrocautery may be utilized as

the *ratio ultimo*. The internal treatment, though not much reliance can be placed upon it, deserves our attention, as the author has had occasion to observe cases of papillomata dwindle away by the use of small doses of magnesium sulphate, 10 grains three times daily; he does not attempt nor is he able to explain the *modus operandi* or the rationale of such treatment. The higher nerve stimulants may be tried, if there be coexistent nerve lesions. Some authors warmly recommend the exhibition of tr. cocci cacti in 10-minim doses *ter in die*. Shoemaker and Keyes advocate the persistent administration of thuja occidentalis in the form of the tincture, 20 minims to ½ drachm after meals. Arsenic in the form of Fowler's solution is also indicated in the event of a coincident nervous affection, and acts very beneficially upon the local disease as well, by virtue of its epithelial predilection. Potassium permanganate in ½-grain doses has been tried with decided advantage in the malady under consideration, as has also the chlorate of potassium. Some American dermatologists recommend the use of echinacea angustifolia both internally in ascending doses and as a topical application to these vegetations. The internal employment of ichthyol has been highly vaunted by some, but the author is unable to report any favorable results attending its use.

In conclusion the author desires to caution against procrastination and the so-called passive or expectant plan of therapeusis of papilloma giganticum occurring during the period of senility, lest the lesions eventually prove the harbingers of malignant neoplasms, thus tending to destruction and cachexia. Their immediate excision *in toto* is therefore imperative.

164 E. High Street.

According to a special correspondent of the *British Medical Journal* there has been a severe epidemic of typhoid fever among the Russian troops at Harbin during the past winter. The water, which is obtained from shallow wells, is believed to be the source of the infection, and as the town has no drainage system it is feared that great difficulties will be encountered in dealing with the epidemic. As Harbin will probably be the chief Russian depot during the war the outlook is very serious. The same correspondent states that the troops leave the camps along the Siberian railway in a filthy state, and as experience in South Africa showed, this neglect is a prolific source of fresh epidemic outbreaks.

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EDITORIAL ARTICLES.

DIMINISHING BIRTH-RATES.

The address lately delivered by the president of the British Gynecological Society is full of suggestive ideas. "To-day," he says, "we are brought face to face with unanswerable statistics proving that our birth-rate is steadily diminishing," and what is true of Great Britain is also true of Austria, Germany, Italy, France, and most probably of the United States, although statistics are not available establishing this latter point absolutely. In Great Britain the birth-rate has in the last twenty years receded from 34 to 29 per thousand, in Germany from 40 to 36, in France from 25 to 22, and so on. In Russia and Japan the birth-rate is rising. In England the marriage rate has not diminished. The diminished birth-rate is not therefore due to celibacy but to diminished fertility. Statistics also seem to prove that juvenile criminalism, mental disease, brain weakness, and alcoholism have increased, and an interesting inquiry into the patronage of semi-public literary institutions seems to indicate that the care for intellectual and artistic culture has perceptibly diminished.

France so far best exemplifies the coincident and consecutive phenomena accompanying diminished birth-rates. During the last fifty years criminality has trebled itself in France, though population has not increased. In Paris now more than half the population arrested are under twenty-one years of age. Child prostitution is growing. Suicides are four times as many as fifty years ago, and since 1880 France has passed from the seventh place in order of consumption of alcohol to the first.

The president of the British Gynecological Society plainly and frankly insinuates that there is just one cause for these waning populations, the individual attitude to the prevention of concep-

tion. The effect of this is not only race limitation, but the hereditary weakness which appears to follow the artificially sterile marriage and the stunted education of the child. The solitary child, spoiled and petted, brought up with other solitary children, is isolated and self-centered. Reared in comparative luxury it is ill prepared for every step of the necessary battle of life, and it is pushed and elbowed to the wall by children apparently less fortunately situated. The effect of all this on national life is far-reaching. "The maximum of life can only be reached by the maximum of virtue" Ruskin has said. Diminished procreative ability can rise into significance as a national disability. National decay is evidently not a matter of age. The Jews have maintained their propagative powers in spite of adverse fortune. "Japan," says a prominent writer, "is in no danger of race suicide. The mothers are not shirking maternity as in other lands, and the result is we can spare half a million of men a year for an indefinite number of years and not miss them." Taken all in all, the survival of nations appears to depend primarily upon its numerical strength, not because of numbers necessarily, but because it is in numbers the strong men find the conditions of their making.

EDITORIAL NOTES.

Suicide in Germany.

From figures recently given out by the German Statistical Department, it is shown that suicide in that country is increasing to an alarming extent. In the year 1900 a little more than 20 people out of every 100,000 killed themselves. In 1901 the percentage rose to 20.8, and in 1902 to 21.4. The industrial districts showed a greater percentage than the agricultural. In Berlin out of every 100,000 individuals 31 committed suicide during 1902; in Saxony 33; in Hamburg more than 37. The majority of the suicides were men. There is something in the German character that makes them especially prone to self-murder. In Germany suicide is not looked upon as the act of a coward, but one that an individual has a perfect right to commit if he be tired of life. A favorite method is for married couples to die together by their own hands when they find the struggle for existence is becoming too hard to bear. Such statistics tend to show that there is something lacking in the national character.

Commend the Faithful Physician.

A prominent Philadelphia newspaper pays a fine tribute to the medical profession at large in speaking of the death of two internes of Bellevue Hospital who contracted tuberculosis in the line of duty. The writer says that no one will notice any resignations from the Bellevue staff of physicians nor any lack of young medical men willing to take up the work of those who fall its victims. It is only one fact of many illustrative of the heroism of the medical profession. The doctor's devotion to duty, his willingness to sacrifice himself to others, and his habitual disregard to personal comfort and safety are not so picturesque as the loyalty, the unselfishness, the bravery of the soldier in the field, but they are of infinitely more human advantage, and of heroic quality no less to be admired. The physician does not march into the presence of danger enthused by the sound of martial music, allured by the advance of his country's flag, comforted by the touch of his comrades' shoulders, certain of the applause of the world. His adventure is prosaic and lonely. Only in the appreciation of the thoughtful is its heroism considered.

Monument to Benjamin Rush.

At last the Rush monument has been completed, and was unveiled and dedicated at Washington on June 10 in the presence of a large gathering of physicians from the meeting of the American Medical Association. The statue is of bronze and is mounted upon a pedestal of limestone and granite. The panels bear the following inscriptions: Front panel: Benjamin Rush 1745-1813—Physician and Philanthropist. Right panel: The first American Alienist. Left panel: Signer of the Declaration of Independence.

Medical Specialists in Germany.

The Prussian government, which is nothing if not paternal, is about to institute an inquiry relative to specialists in that country. Medical men practicing as specialists have been requested to prepare statements as to the special branch of medicine they have taken up, where and by what teachers they were trained, whether they have a private clinic of their own or whether attached to a polyclinic, the date of their becoming qualified, and for what length of time they have been practicing their specialty. Such an

inquiry might have a beneficial effect in this country, where too many of our so-called specialists are the result of a six-weeks' postgraduate course. It might not be such a bad idea to have a State board examine medical men who wish to become specialists as to their qualifications, and thus determine if they really possess the special skill they claim.

Objectionable Advertisements to be Excluded from the Mails.

The Post-office Department has awakened to the fact that medical charlatans have made a good living by using the mails to defraud their poor deluded victims. In the future all such offensive advertisements will be excluded from the mails. All drugs and nostrums will be referred to the Department of Agriculture for analysis to determine the sincerity of their medical claims, and the data in all cases will be referred to the Law Department to determine what action can be taken against advertisers. It is very pleasing to see that our postal authorities have taken the initial step in this matter, owing to the fact that when physicians have pointed out the necessity for doing away with this evil the cry has always gone up from those most interested that physicians were jealous.

The Disinfection of Streets.

The New York Board of Health has found that a great number of the men employed in sweeping the streets become victims of tuberculosis. They become infected from the bacilli found so plentifully in the dust of the sweepings. Strenuous efforts are being made by the health commissioner to prevent the condition which has been discovered, and the men are now required to take a bath before going home, and are made to boil their duck uniforms every other day in order to avoid carrying the germs to their families. The department is considering the advisability of making use of disinfectants in the water used to sprinkle the streets. Should these measures be carefully carried out they will doubtless check the spread of tuberculosis among the "white wings" and also the public.

ITEMS AND NOTES.

Several cases of smallpox are reported from Niagara Falls.

Statistics show that Australia's birth-rate is slowly declining.

Professor Wilhelm died at Leipsic on May 1 after a long and painful illness.

The bubonic plague epidemic in Lima and Callao, Peru, appears to be under control.

The estate of the late Sir Henry Thompson has been probated at over $1,000,000.

The Sixth Northern Anti-Alcohol Congress will be held at Copenhagen July 6 to 12, 1904.

Berlin has now a hospital with over one hundred beds for the care of individuals suffering from venereal diseases.

The International Tuberculosis Congress was opened in Copenhagen on May 27, Professor Brouardel, of Paris, presiding.

The Pasteur method for the treatment of persons bitten by dogs has quite recently been employed for the first time in Philadelphia.

The oldest living practitioner of Philadelphia is Dr. Jacob L. Ziegler, of Mount Joy, Pa., who is eighty-one years old, and who has practiced medicine for sixty years.

The fifty-fourth annual meeting of the Illinois State Medical Society was held at Bloomington May 17, 18, and 19, 1904, under the presidency of Dr. Carl E. Black, of Jacksonville.

At a baby show in Paris recently the judges decided that out of 150 none were healthy enough to take a prize. The mothers assaulted the judges, and all hands, including the babies, landed in the police station.

Dr. Anita Magee, of Philadelphia, who has taken a staff of volunteer nurses from America to Japan, has been appointed manager of the military hospital at Matsuyama by the directors of the Japanese Red Cross Society.

A DESPATCH to the *New York Sun* from Colombo says that Professor Castellani, who occupies the chair of pathology and bacteriology at the Colombo Medical College, announces that he has discovered the bacillus of dysentery. He is experimenting with preventive serums and a curative vaccine.

THE third annual convention of the American Confederation of Reciprocating Examining and Licensing Medical Boards was held in Chicago May 24. The examining and licensing boards of the States of Illinois, Indiana, Wisconsin, Michigan, Iowa, Nebraska, Kentucky, and Maryland were represented.

DR. PRESTON M. HICKEY was elected president of the Detroit College of Medicine alumni on May 5; Dr. H. M. Kerr of Calumet, vice-president; Dr. G. C. Bassett, financial secretary; Dr. A. H. Hume of Owosso, historian. Dr. Angus McLean and Dr. W. A. Repp were chosen as members of the Executive Committee.

AN association of California vineyardists has been formed, to be known as the American Grape Acid Association, for the purpose of solving the problem of the production of cream of tartar from California grapes. Any person who can find out this secret will be paid $25,000, says Andrea Sharboro. The present value of tartaric acid wholesale is 31 cents a pound.

THE St. Petersburg correspondent of the *New York Sun* reports that a new disease called the "green plague" has broken out among the Russians quartered in Chinese houses in Mukden: "The eyesight is first affected, after which green spots appear on the body. The disease is highly contagious. A majority of the cases are fatal. The Chinese seem to be immune."

THE latest aid to the identification of criminals in France is the *x*-rays. The head of the Radiographic Laboratory at the Salpêtrière Hospital has collected eight thousand negatives of fractures and other internal anomalies. The other hospitals of Paris probably contain twice as many more, and it has been suggested that these or similar records might be of the greatest utility, where other indications fail to establish identity. It is even proposed that a system of preventive radiography should be enforced, every criminal being subjected to the *x*-rays as soon as arrested.

AN exchange states that sooner or later legislation will have to settle the question of vagrancy, if only in relation to its malign influence in the spread of communicable diseases. Particular

danger has been shown over and over again to exist in the case of smallpox, a disease which as a rule can be readily tracked to its original lair. An important contribution to the literature of the subject has recently been made by Dr. Armstrong, the well known medical officer of health for Newcastle-on-Tyne. His communication takes the form of a report based on inquiries addressed to local authorities throughout the kingdom. The answers show that out of 111 districts invaded by smallpox, the disease was introduced in more than fifty per cent by the agency of tramps.

At a recent meeting of the French Académie des Sciences M. Laveran made a communication in which he maintained the identity from the point of view of morphology, biology, and pathogenicity of the trypanosoma gambiense (Dutton) and the trypanosoma ugandense (Castellani). In view of this identity he urged that the term trypanosoma ugandense should be dropped altogether, since the description of the organism and term applied to it by Dutton were anterior to those of Castellani, and the existence of two terms for the same organism is superfluous and confusing. In the same communication he proposed that the term sleeping sickness should also be abandoned, inasmuch as it merely represents the final stage of a disease which he thinks should be simply called human trypanosomiasis.

In the new milk regulation, just issued, the Boston Board of Health places the limit on the number of bugs that a person should swallow with a glass of milk at about 100,000,000. Occasionally the milk inspectors will sample the milk in stores, restaurants, bakeries, and shops to count the organisms, and if they find an excess will prosecute for violation of the rules. The new article in the rules provides that no person shall bring into Boston for the purpose of sale any milk which contains more than 500,000 bacteria per cubic centimeter, or which has a temperature higher than 50°. This amount is selected for convenience in examination and represents about 80,000,000 to 100,000,000 in an ordinary glass of milk. This regulation will have the effect of inducing farmers to keep their stables clean and well ventilated, because if the milk remains warm a long time and foreign substances come into it the bacteria increase at an enormous rate; kept down at 50° the growth of bacteria is checked. The regulations require also that the milk in stores, restaurants, bakeries, and on the market shall be kept in cool, inspected refrigerators; no can to be kept on the outside longer than while the sale is being made.

NEW PUBLICATIONS.

RAILWAY AND OTHER ACCIDENTS.

The growth of litigation in the modern state has necessitated the specialization of the medical jurisconsult. It is with satisfaction that the appearance will be noted of a manual specifically designed for court use dealing with injuries to the nervous system. The author, Dr. Hamilton, is already well known to fame as a learned and distinguished psychiatrist and neurologist, and as the author of more than one useful contribution to medicine. The subject-matter of the present volume deals with accident aboulia, traumatic insanity, peripheral neurosis, and other topics of far-reaching interest, and the work abounds in practical points of diagnosis in differentiating the phenomena of simulation from those of actual lesion. Dr. Hamilton's book meets a well established need, and nothing but success can be predicted for it.

Railway and Other Accidents, with Relation to Injury and Disease of the Nervous System. A Book for Court Use. By Allan McLane Hamilton, M.D., F.R.S.E. New York: William Wood & Co., 1904.

THE CLINICAL EXAMINATION OF THE BLOOD.

No more striking confirmation of the progress of hematology as an exact science can be furnished than the growth and popularity of manuals such as this. Dr. Cabot's book is now in its fifth edition, and about ninety pages of new matter has been added to the former edition. The additions deal with Romansky's staining method, and the chapters dealing with infectious diseases and blood parasites. The text is amply elucidated, the excellent colored plates adding much to the usefulness and attractiveness of the volume.

A Guide to the Clinical Examination of the Blood for Diagnostic Purposes. By Richard C. Cabot, M.D. Fifth Revised Edition. New York: William Wood & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Perforated Gastric Ulcer.

H. Howitt (*British Medical Journal,* May 7, 1904) reports a fourth consecutive successful operation for acute perforated gastric ulcer. Early diagnosis is a matter of vital importance in these cases, and is comparatively easy when a history pointing to the presence of gastric ulcer can be obtained. Even without such a history the pronounced shock, severe pain in the epigastrium, rigidity of the abdominal walls, and the thoracic nature of the respiration help to a diagnosis. The situation of the ulcer is to a certain extent indicated by the history and the symptoms. Thus the position in which the patient has been accustomed before the perforation to obtain relief from gastric pain is of importance. Again, slight point pressure over an unperforated gastric ulcer in the anterior wall often causes severe pain, but this can only be elicited on deep pressure should the ulcer be on the posterior wall. When pain is caused by the irritation of food before perforation it radiates to the right and perhaps downward, if the ulcer be near the pylorus, but in other cases it radiates to the left side, often to the left shoulder. After rupture the position of the pain is at first unaltered, but more agonizing pain is soon felt, which follows the passage of the contents of the stomach downward in the abdomen. In perforation of the anterior wall this pain is quickly felt, and follows the course of the descending colon; in perforation in other situations it is slower in onset and generally follows the course of the ascending colon.

With respect to the method of dealing with septic infection of the petitoneal cavity the author is in favor of a large incision and a thorough toilet of the cavity. Where abdominal distention is a prominent symptom of general infection of the peritoneum and the stomach is collapsed and crowded under the ribs, a temporary enterotomy and evisceration is an essential preliminary to a successful suture. The case recorded in the article was one of ulcer on the anterior surface of the cardiac end of the stomach. On perforation there was severe pain in the epigastrium radiating to the left side of the thorax and the left shoulder. Later the site of the most intense pain was in the left side of the abdomen, near the anterior superior spine of the ilium.

Acute Infective Gangrenous Processes (Necroses) of the Alimentary Tract.

In discussing obstruction of the mesenteric vessels E. M. Corner (*Lancet,* May 14, 1904) says it is most common in men past middle life, and is secondary to valvular disease of the heart, especially mitral disease. The onset is generally sudden, with symptoms of peritonism. There is also another class in which blood is passed per rectum, and which signifies infarction of the bowel. Subacute and chronic cases are seen as well as the most acute. In some cases it is most probably spontaneously recovered from, especially if only a small area of the bowel is rendered bloodless. For a constant situation of the embolus in the superior mesenteric artery as in the main trunk all varieties of clinical cases have been reported, from the most acute and fulminating to cases like Professor Chiene's, that recovered apparently without obvious symptoms. With a precisely similar lesion some subjects die in thirty hours, and some not for from twelve to twenty days. Gangrene of the gut has been noticed to occur within thirty hours, and sometimes not after twenty-two days. A collateral circulation can be found in slowly developing cases of visceral vascular obstruction; and even in more acute instances an attempt at a collateral circulation is made. The superior mesenteric artery is almost invariably picked out for the site of the embolus in fatal cases, possibly because it will always cause symptoms and almost always death, which need not occur with involvement of the inferior mesenteric and its branches or those of the celiac axis. The explanation of the individual variations, clinical and pathological, seems to depend upon the pathogenicity of the bacteria present in the gut as to the severity, rapidity, or other characters of the cases. On the bacteriology of this affection there is no work done.

Acute Appendicitis and Perityphlitis in Children.

From his study of the literature and his case F. Spieler (*Archives of Pediatrics,* May, 1904) comes to the conclusion that appendicitis is more common in children than in adults. The appendix in children is relatively longer and wider than in adults, and fecal concretions, intestinal stones, foreign bodies, threadworms, etc., are more apt to become lodged therein. The appendix is also very rich in lymphoid tissue. This tissue is most frequently affected in childhood, and the author thinks there is an

analogy between inflammatory conditions of the tonsils and appendicitis which he would term "angina processus vermiformis." The age of his patients ranged from two to fifteen years.

The symptoms are very undefined in children. The diagnosis is beset with many difficulties, as it is often impossible to definitely localize the point of pain. Often the first sign of the trouble is a diffuse peritonitis. In children the severe diffuse form of appendicitis is commoner than the catarrhal form. This may be due to the abnormal position, form, or size of the appendix, or to the high virulence of the organism causing the disease, or to the easy entrance of fecal concretions. The author, as a result of his observations, strongly urges immediate operation in all cases of appendicitis. The sooner the operation is performed the better. There is no surer form of prophylaxis against perforation and general peritonitis than an early removal of the appendix.

Suprapubic Prostatectomy Under Nitrous Oxide Anesthesia.

Jos. Weiner (*Journal of the American Medical Association*, May 14, 1904) advocates the use of nitrous oxide as an anesthetic during the operation of suprapubic prostatectomy. The writer reports a number of cases upon which he operated, giving as the average time employed from twelve to fifteen minutes. He claims that this operation can be rapidly and safely performed under laughing-gas, and that any patient who can stand laughing-gas for ten or twelve minutes can have the operation performed. Old age, diabetes, and cystitis are no contraindications.

All of the contraindications usually mentioned are contraindications not for the operation, but for the administration of ether or chloroform.

The value of laughing-gas and of rapid work in these old prostatic cases cannot be overestimated. These two factors are, we believe, the keystone to success in suprapubic prostatectomy. Few indeed are the patients, even though eighty years of age, or suffering from diabetes or sepsis, that cannot be entirely cured. So we are now enabled to offer these poor old men an almost certain promise of a complete cure by an operation that can be done without ether or chloroform, that rarely takes more than twelve minutes to perform, and last, but not least, an operation that has a mortality of but four per cent.

The Prevention of Tetanus.

Daniel N. Eisendrath (*Journal of the American Medical Association,* May 14, 1904) in regard to the prophylactic treatment of tetanus says that early and thorough exposure should be made of every portion of the tract which has been infected by the blank cartridge or instrument which caused the punctured wound, retracting the edges, so that the disinfection and removal of the infected tissues can be done under the guidance of the eye. Prophylactic injections of tetanus antitoxin should be given to aid the organism in combating whatever toxins may have been absorbed prior to the time of operation. This thorough disinfection can only be carried out under anesthesia, either local or general, and when the parts are rendered bloodless by the application of a constrictor. The blank cartridge itself does not contain tetanus bacilli, but undoubtedly carries them in while penetrating the skin. The instruments which cause punctured wounds either are covered with tetanus bacilli or the manure of horses, etc., and are thus carried into the wound.

Our only hope in reducing the high mortality of tetanus is in a thorough application of such radical measures as have just been described.

Gonococcus Sepsis.

Krause (*Berliner klin. Wochenschrift,* No. 19, 1904) reports two cases of gonococcus sepsis. One, a man twenty-eight years old, died of pericarditis and endocarditis. The growths on the aortic valves did not yield any gonococci, though they could be found and cultivated in the blood during life. The second case was that of a woman who recovered after weeks of fever; in this case also the gonococci were demonstrated in the blood. The technique consisted in taking large quantities of blood from the veins and making plate cultures.

The Treatment of Fractures at the Angle of the Lower Jaw.

William Fuller (*American Journal of Surgery and Gynecology,* May, 1904) says when the teeth are present and the aid of a competent dentist is to be had, the wiring of bone fragments in any but the most exceptional cases of lower jaw fracture is not only needless and unwarranted but dangerous surgery. The

splint will more accurately and firmly hold the fracture than any other device. It is unnecessary to extract a tooth or make other provisions for feeding the patient, as any quantity of liquids can be taken with the splint in position. It can with very little trouble be removed, cleaned, and replaced, should occasion demand it, and, as stated by Ottolengui, it is not when in position unattractive. It is cheap, and can be made and used in all cases without much expense to either surgeon or patient.

MEDICINE.

Some Characteristics of Stegomyia Fasciata which Affect its Conveyance of Yellow Fever.

In discussing the rôle of the Stegomyia as a carrier of yellow fever H. R. Carter (*Medical Record,* May 14, 1904) speaks first of its distribution. This he says is generally between lats. 43 N. and 43 S. on the coasts and low plains of Africa, Asia, and the adjacent islands, Australia, and the Mediterranean basin of Europe. It is also general on the eastern coast of America from 38 N. to 35 S. lat. On the west coast it is found at Panama and Guayaquil, and its existence is implied from Guayaquil to Acapulco. In the United States it is general on the coast and low plains of the Southern States, except Maryland.

It is conveyed by vessels indefinite distances from Cape Town to Savannah Quarantine; in much greater numbers and more often by sail than by steam vessels.

It lives a long time, 154 days being recorded of an infected insect. Once having acquired the power of transmitting yellow fever, it retains it apparently as long as it lives—59 days being recorded. It propagates preferably in artificial containers, but will propagate in pools where such containers are not available. In America it has been reported only in the vicinity of human dwellings, and seems here not to be a sylvan, paludal, or campestral mosquito. From 4 and 5 the war against this insect in America should be waged about the houses of men, and especially against water in artificial containers. The introduction of a water-supply, piped to every house so as to do away with cisterns and water-jars, is the most important measure of sanitary engineering to free a town of this mosquito. Next to this is a system of drainage by covered drains to carry off the rain water and prevent pools. Cesspools are not objectionable on this

score. It unquestionably hibernates in the United States, but if the infected adult hibernates, either a very large proportion of them die or else the infecting parasite must generally die in the hibernating mosquito. The first seems more probable.

It is essentially a house mosquito, and is inclined to stay about the premises where it has fed. Hence the greater safety of the whole district of an infected city as compared with the residence portion. It does not feed in the dark or in bright sunlight. Therefore in bright daylight or at night without artificial light are the safest times to be in an infected place. The cycle of the yellow fever parasite in the mosquito before it can be conveyed to man is generally in hot weather, about fourteen days or over. Prior to the accomplishment of this cycle (once called the "extrinsic incubation of yellow fever") the mosquito cannot convey this disease.

It is probably usually conveyed aerially less than 100 yards. In Havana the infected insect is believed to be never aerially conveyed 200 fathoms (1200 feet) from Havana shore. The direction of the prevailing wind during the day influences its aerial conveyance.

A Case of Amebic Dysentery.

H. Vincent (*Archives of Pediatrics,* May, 1904) in reporting the above case makes the following distinctions between the principal varieties of dysentery:

There is the dysentery common in the temperate zone, caused by the bacillus of dysentery, and there is the dysentery peculiar to warm climates, due to the ameba of dysentery. Finally, a few cases have been recorded of amebobacillary origin.

The symptomatology is identical. The differential diagnosis is made by microscopic examination, cultures of the stools, and the seroreaction. In the amebic form, however, there is a tendency to chronicity from the outset; it has an irregular course with frequent remissions and exacerbations; the stools are alkaline; and the disease is sometimes complicated by hepatic abscess. The bacillary variety, on the contrary, has an abrupt onset, an acute course, cure or death resulting within fifteen or twenty days. The stools are neutral or acid, and there is no abscess of the liver. In tropical dysentery the lesions are confined to the large bowel, which shows deeper ulceration and death of tissue. The ulcerations in the bacillary variety cover the entire large intestine, very often extending to the lower portion of the ileum, are always superficial, and never reach the muscular coat.

The Diagnosis of Smallpox in the Papular Stage.

D. B. Reed (*New York Medical Journal,* May 7, 1904) discusses the diagnosis of smallpox during the papular stage. The following points are mentioned on which a diagnosis may be made:

Presence of an epidemic. In the absence of an epidemic near-by has the patient been elsewhere exposed to the contagion?

Previous history of the patient. Has he had smallpox or been successfully vaccinated?

Mode of onset. Here note the period of incubation (usually about twelve days); date of initial symptoms. Especially characteristic of the invasion are the severe chills or chill, intense pain in the limbs and lumbar region, vomiting, and intolerable frontal headache. A decided remission with the appearance of the eruption.

The eruption develops on the fourth day. Distribution especially on the forehead, face, and extremities; "shotty" feel and surrounding areola; uniformity of lesions—only papules, not papules, vesicles, and pustules.

Movement and Emigration of Lymphocytes.

Wlassow and Sepp (*Virchow's Archiv,* Bd. 176) examined the white cells of the blood at various temperatures on a warm stage. The leucocytes moved readily, though the lymphocytes remained in a state of rest. The lymphocytes begin to show motion at 44° to 46° C., and retain that motion after the temperature drops. The authors thus show that the lymphocytes possess motion only under abnormal conditions, and are not able to leave the blood-vessels in inflammatory processes. This lack of motion is attributed to the relatively small amount of protoplasm to the large nucleus.

Elasticity of the Skin.

E. Lodhotz (*University of Pennsylvania Bulletin,* May, 1904) has from his experiments drawn the following conclusions: (1) The curve of elasticity of skin resembles that produced by a muscle. (2) Supplemental extensibility is greater than that found in muscle, arteries, or elastic tissue. (3) Supplemental extensibility is greater as the number of weights applied to the skin preparations are increased. (4) This phenomenon continues increasing for an indefinite period—in fact, so long as the weight is

applied, if the preparation is kept in good condition. (5) Supplemental elasticity is less marked than that found in muscle, arteries, or yellow elastic tissue. (6) The intermittent action of an equal weight produces a curve which usually describes a hyperbola. (7) Supplemental extensibility is inconstant and prevents the production of a constant mathematical curve when heavier weights are added. (8) The higher the temperature the greater the extensibility and the less perfect is elasticity. (9) Alkalies increase and acids decrease elasticity.

A Comparison of Animal Reactions of Trypanosomes.

A. W. Thomas and S. F. Linton (*Lancet,* May 14, 1904) say that the trypanosomes found in (*a*) cerebrospinal fluid of Uganda sleeping sickness cases, (*b*) cerebrospinal fluid of Congo Free State sleeping sickness cases, (*c*) blood of Uganda trypanosome fever cases, are all identical in animal reactions and morphology with *Trypanosoma gambiense*. The specific name Gambiense (Dutton) must therefore for the future include the trypanosomes from the above mentioned sources. There seems to be no acquired immunity against infection. There is no transmission of immunity to offspring.

An animal which seems to have recovered may months later show parasites once more, apparently as the result of lowered vitality.

Nocturnal Incontinence of Feces Due to Enlarged Tonsils.

E. Silvester (*British Medical Journal,* May 14, 1904) reports the case of a boy aged seven who developed enlarged tonsils at three years due to an attack of tonsillitis, and ever since has been troubled with nocturnal incontinence of feces. Occasionally there was enuresis as well. The child always had a desire to defecate when shut up in ill-ventilated rooms. There was no physical defect, no epilepsy, and the child was well looked after by its parents. The curious thing was that on removal of the tonsils (which were very large) all trouble with the bowels ceased immediately, and has not returned. The connection between enuresis and adenoids has often been pointed out and is attributed to excess of CO_2, and probably a similar explanation would be applicable in the author's case.

Distribution of Scarlet Fever Through Milk.

Ekholm (*Zeit. f. klin. Med.,* Bd. 49) notes that a number of epidemics of scarlet fever in England had been traced to the supply of cow's milk, and that the epidemic distribution of scarlet fever occurs only in countries where cow's milk is a common article of diet; whilst in countries like Japan and China, where cow's milk is but little used, scarlet fever is rare. He reports a case of an epidemic in Wassa, a town of 1500 inhabitants, with 361 cases, which were all traced directly to the milk supply, which was traced to a barn where a girl was employed suffering from phlegmonous angina, evidently a scarlatina which had not been diagnosed.

Fermentative Action of Mummy Muscles.

Sehrt (*Berliner klin. Wochenschrift,* 19, 1904) took the muscles from mummies from the anterior and posterior portions of the neck and made an emulsion with and without animal pancreas, and added a grape-sugar solution. The mummy muscle showed the same glycolytic action with the addition of pancreas as the fresh muscle did, though alone it possessed no such property. Thus the author demonstrates that this ferment is still active after the lapse of 2000 years.

THERAPEUTICS.

Gonorrhieal Epididymitis and its Treatment.

G. Barmann (*British Medical Journal,* May 7, 1904) reviews the opinions held with regard to the pathogenesis of gonorrheal epididymitis, and in spite of the work of Eraud and others finds that there is every reason to refuse suggestion that the so-called orchiococcus is the responsible microörganism, but that there is little doubt that the gonococcus acts locally, causing the change in the epididymis. The path of infection is probably the mucous membrane, and in support of this view he finds that the vas deferens is more commonly thickened than is usually supposed; that the epididymitis is frequently ushered in by a vesiculitis, involving the corresponding half of the prostate, as well as a deferenitis; that the post-mortem changes in certain cases are analogous to the strictures of the urethra; and lastly, because the gonococcus is

more or less a mucous membrane parasite. He has studied the question closely in a series of cases, and has sought for the gonococcus by puncturing the epididymis. The cases included some with more or less wide-spread abscess formation, and with inflammatory hydrocele.

From his experiments the author came to the conclusions that every epididymitis which occurs in the course of gonorrhea is due to a local invasion of the gonococcus, and this microörganism can be cultured from the fluid gained by puncture; that in the overwhelming majority of cases a hitherto undiagnosable abscess formation takes place rapidly—this suppuration represents either congestion or pseudoabscess, or it may be explained as a pure suppuration caused by the cocci. In the former case the wall of the vas epididymis undergoes secondary degeneration. In the cases complicated with abscess there is always some hydrocele, which is due to the infection of the tunica vaginalis by gonococci; further, that under certain conditions gonococci can be found in the remains of epididymitic infiltration years after the acute attack; that epididymitis which is due to or rather follows non-gonorrheic urethritis is caused by the invasion of the local tissues by the same microörganism causing the urethritis; that early puncture of an acutely inflamed epididymis is to be recommended, since by this means pseudoabscesses or abscesses situated in the connective tissue may be evacuated, and the vas epididymis may be protected from being implicated in the destructive process; and lastly, that puncture of the hydrocele is also to be recommended on the ground that the disturbed conditions of the circulation are improved, and the chances of resorption are thus favored.

Serum Treatment of Hay-fever.

A number of cases of hay-fever treated by Dunbar's serum have recently been reported by L. S. Somers (*Medical News*, April 23, 1904). Somers used the antitoxin made from the serum of animals inoculated with the pollen toxin of goldenrod, and employed it in the form of serum and powder. One or two drops of the serum is placed in each eye and nasal chamber whenever an attack of hay-fever is expected, or on the presence of any irritation. The dried serum may also be employed when mixed with an inert powder such as milk sugar, but it can only be used in the nasal chamber. The results in these ten cases proved very gratifying. The serum produces prompt amelioration of the symptoms

in the majority of cases, and in a smaller number the affection may entirely disappear. When slight or no action is seen after its use, pollen as an etiological factor does not predominate. When administered in advance of the attack or during the same, irrespective of severity, it produces marked palliation rather than absolute cure. Its effects upon future attacks are as yet unknown. The serum in powder form is slightly soothing to the mucous membranes of the nose, but has little influence upon the other symptoms, and in occasional cases may act as a direct irritant.

The Alternate Administration of Arsenic and of Sulphate of Quinine in Malaria.

Dr. Goldschmidt at a recent meeting of the Paris Therapeutical Society read a paper pointing out that arsenic would act favorably in cases of malaria where quinine failed, and *vice versa*. If, for instance, an attack of malarial fever will not yield to sulphate of quinine, or to arsenic given in the second place, it is almost certain to yield to a second dose of quinine given after arsenic. The use of arsenic consecutively to sulphate of quinine has been found successful in intermittent affections other than malarial fever. More than thirty years ago M. Goldschmidt had cured in this way a young girl who suffered from intermittent attacks of torticollis. As regards the various preparations of arsenic he considers that arrhenal has manifest advantages over arsenious acid, especially from the point of view of its lesser degree of toxicity, which renders it easier to employ subcutaneously. But it remains to be seen whether the results obtained with arrhenal are better than those obtained with arsenious acid.

Effect of the X-ray on Internal Organs.

Heinike (*Münch. med. Wochenschrift,* No. 18, 1904) shows that guinea-pigs die in fourteen to seventeen days after being subjected to the *x*-ray for several hours. The internal organs show an increase of pigment in the spleen with a disappearance of the splenic follicle. He also demonstrates that this change takes place in the first eight hours. The destruction of the pulp cells occurs after several days. The author believes that in pseudoleukemia, chronic enlarged spleen, and in lymphosarcoma the condition may be influenced therapeutically by the rays.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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Neuritis as a Complication of Some Portion of the Child-bearing Process.

The symptomatology of the cases, according to W. R. Nicholson (*American Medicine,* May 28, 1904), varies of course according to the severity of the lesion, and careful inquiry will sometimes be rewarded by the history of the inception of the trouble having occurred in pregnancy. This may be true of the forms of pressure neuritis, as well as of the toxic and septic. In the former the mere friction of the presenting part in the latter part of pregnancy upon the nerves at the pelvic brim is at times sufficient to produce at least their transient irritation. The time of onset may then be in the latter part of pregnancy, during labor, or at any time subsequent for a period of several weeks; the cases due to intrapelvic fetal pressure occur promptly after labor as a rule, and also generally show a considerable amount of pain during the labor, while those due to sepsis occur later, according to the special development of the case. As regards the actual symptoms, it will be found that they vary from a transient pain, often ascribed to rheumatism, etc., and without any localizing nerve signs, to a symptom-complex resembling "Landry's paralysis" or myelitis. The usual type of case is one intermediate between these extremes, presenting some pain, loss of power, perhaps some sensory disturbances, as paresthesia, and atrophic changes. The nerves involved are in less severe cases the median or ulnar, or if the leg be affected, the sciatic, the gluteal, and especially the external popliteal, the peculiar symptom of the latter being the presence of the so-called foot-drop. In the grave cases threatening life there is a general involvement of all the nerves of the body. The symptomatology of the secondary involvement of the cord and brain, which rarely occurs, does not need to be considered here.

The Apostoli Treatment for Uterine Fibroids.

G. Betton Massey (*Journal of the American Medical Association,* May 21, 1904) says that a prolonged observation of cases of fibroid tumors of the uterus under the Apostoli treatment

teaches that three-quarters of the cases subjected to the method will be practically cured, as attested by inquiries made from three to sixteen years after the cessation of treatment. The cases that respond poorly or not at all to this treatment are not harmed by it, when properly applied, and heroic measures may then be adopted with the certainty that milder means are of no avail. Hemorrhagic and interstitial fibroids are best adapted to the Apostoli treatment, while subperitoneal or degenerative fibroids and those complicated with pyosalpinx are least adapted to be relieved by it. So far as his inquiries and circulars show, there have been but seven deaths among 110 patients during the sixteen years or less that they have been under observation. It is an interesting fact, moreover, that but one of these deaths was due to the progress of the growth itself, proving the non-mortal character of this affection. Of the remaining six, one died long after the treatment of an affection totally unconnected with the growth, one of septicemia under electric treatment, and four while being operated on with the knife.

Transportation of Chorionic Villi and its Results.

E. Veit (*American Journal of Obstetrics,* April, 1904) attributes a great number of normal and pathological changes in pregnancy which appear to depend upon the reception of chorionic villi into the tissues to the transportation of such villi. As instances of such changes he mentions enlargement of the bed of the ovum, placental polypi, placental adhesions, thromboses of the serotinal veins, premature detachment of the placenta, destructive hydatid moles and malignant chorion epithelioma, and finally pregnancy kidney and eclampsia. He therefore recommends as the practical outcome of his belief the most painstaking cleanliness in conducting cases of abortion or hydatid mole, and even in the examination of any travailing and bleeding woman, in order to guard against the accession of germs to the villi in course of transportation.

Accouchement Forcé for Morbus Cordis by Means of Frommer's Instrument.

G. Walter (*British Gynecological Journal,* February, 1904) reports a case as follows: A primipara, aged twenty-seven, had suffered for a long time from serious heart disease—insufficiency and stenosis of the mitral valves. Compensation failed in the

thirty-first and also in the thirty-third week, and in the thirty-fourth, after dilatation of the cervix with Frommer's modification of Bossi's instrument, the child was extracted by the high forceps, the woman being in slight narcosis for two minutes only during the extraction. The child weighed 2700 grammes, was 47 centimeters long and 33 round the head. During childbed there was some fever and one attack of cardiac insufficiency, but all subsequently went well, and the child throve. Walter points out that when the cervix is not taken up, the branches of Frommer's instrument are too short. In this case, in spite of fixation of the portio with bullet forceps, the instrument slipped out of the internal os.

The So-called White Infarcts of the Placenta.

D. Scheckele (*American Journal of Obstetrics,* April, 1904) after numerous researches arrives at the following conclusions:

Infarctions are examples of degeneration occurring during the cycle of a physiological process. In almost any placenta, at some stage or other of its development, certain disturbances in the circulation in the intervillous spaces may be observed, with secondary effects in the villosities of the decidua. The initial phenomena of disturbed circulation with the results of retardation or stagnation of the blood are followed by reaction upon the villous epithelium and the decidua. Scheckele suggests the term "fibrinous nuclei" as preferable to "infarctions," at all events for the more voluminous formations of the kind, on the ground that they are the result of a double process, the organization of the blood-clots and analogous secondary changes in the adjacent anatomical elements.

The Physiological Function of Menstruation.

J. Riddle Goffe (*Medical Record,* May 7, 1904) says that his opinion is that the dominant factor in menstruation is the ovary and ovulation; that from the ovary, or its sympathetic nerve ganglia in the pelvis and abdomen, there springs the impulse for reproduction of the species; that menstruation is a retrograde process, the result of a failure of fertilization of the ovum, and that the tubal mucous membrane as well as the endometrium participates actively in the process of menstruation.

THE MEDICAL AGE

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ORIGINAL CONTRIBUTIONS.

RENAL DECAPSULATION—INDICATIONS, LIMITATIONS, AND TECHNIQUE.

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Many things in medicine and sugery are as yet unsettled; so it is with renal disease and renal surgery.

In the treatment of renal disease there is such diversity of opinion on many points that we become confused and find it difficult to reach definite conclusions.

In the evolution of kidney lesions there is more than one factor, and he who better understands the human economy as a whole will be the better able to understand the kidney as an individual organ, and in its relation to the body as a whole.

When we fully understand the function of the kidney with its nerve, vascular, and lymphatic supply, then we will be the better prepared to understand the etiology and pathology of renal disease.

We must recognize four avenues by which the kidney may be influenced:

1. The nervous system.
2. The vascular system.
3. The lymphatic system.
4. By continuity of tissue from the bladder through ureter.

It is self-evident that an organ thus influenced has more than one cause of disease. Then in the prophylaxis and treatment each must be recognized.

It would be useless in many cases to direct our attention and treatment to the kidney alone, and not recognize the cause of

disease as well as the effect. No one treatment or surgical operation will ever prove a panacea for all renal lesions.

Haig recognizes meat and such diet as increases the production of uric acid and the xanthic group in the body as potent factors in the production of renal disease. In some instances the kidney lesion is but the accompaniment of a general atheromatous condition of the vascular system.

Bunge considers the excessive use of salt as injurious to the kidney, and states: "There is no organ of our body so mercilessly treated as the kidney. The stomach reacts against overloading. The kidneys are obliged to let everything pass through them, and the harm done to them is not felt till it is too late to avoid the evil consequences."

Some claim that the good effect of milk diet is in part due to its low percentage of chloride of sodium.

If we cannot correct the constitutional condition, regulate the diet, remove or counteract the cause of the kidney lesion, local surgical measures will be of little benefit so far as renal decapsulation for Bright's disease is concerned.

In some instances the cause is transient, leaving the effect on the kidney to deal with.

When the cause of the kidney lesion has run its course or been removed by treatment or diet, and the kidney fails to recuperate, then renal decapsulation is to be considered.

The exanthemata have long been recognized as dangerous to the kidney, and of late infectious and septic conditions are being given some consideration.

Infections following labor and abortions in women with movable kidney are very liable to development of kidney lesions. It is but reasonable to suppose that a movable diseased kidney is less likely to recover than one in a normal position.

Since Hahan in 1880 did his first operation for movable kidney many lessons have been learned and the operation carried to the extreme, and renal decapsulation is likely to suffer in the same way.

In many instances a movable kidney gives no special trouble, and does not require surgical measures. It frequently occurs with gastroptosis and enteroptosis, which must be considered in the treatment of such cases.

In simple movable kidneys not diseased, it is a question when and what operation should be done.

Healthy movable kidneys without nervous symptoms, Dietl's crisis, hydronephrosis, and not tender on pressure, do not require operation. Such can be treated by the abdominal binder, giving

support to all abdominal organs as well as the kidneys, especially when there is ptosis of other organs.

In operating on movable kidneys nephropexy and decapsulation are used, Tuffier being the first to dissect up part of the capsule for anchoring the kidney. Priority of decapsulation of the kidney for Bright's disease is claimed by both Edebohls and Ferguson. Their articles on the subject both appeared in 1899—Ferguson's, March 11; Edebohls's, April 22.

Edebohls's first operation was on November 29, 1892; his fifth, April 1, 1897; the sixth—and for the deliberate purpose of curing Bright's disease—was done January 10, 1898. Ferguson's first operation for nephritis and floating kidney was done June 17, 1896; his second, September 9, 1897; third, January 4, 1899—nephritis demonstrated by microscopic examination of specimen removed. Reginald Harrison operated in 1878, 1887, and 1893, on three cases by mistake, and concluded that the accompanying nephritis was cured by decapsulation relieving the kidney tension. As to how decapsulation relieves nephritis, and as to whether such relief will be permanent, have not yet been settled.

The relief of renal tension (Harrison), temporary drainage, the establishment of increased vascularity by adhesions (Edebohls), are probable factors. In the more acute stage the relief of tension and temporary drainage are most important. In chronic cases the increased vascularity and increased blood-supply account for the beneficial results.

Dr. Harold N. Johnson, of San Francisco, experimented on dogs and failed to find extensive adhesions, vascularity, and anastomoses of renal and perirenal vessels as a result of decapsulation. Ferguson suggests the fault in Johnson's technique was in returning kidney in fatty capsule, which is less vascular and not likely to form as firm adhesions.

It is probable future work will demonstrate the presence of adhesions, increased vascularity, and anastomosis reaching over and connecting the two portions of the kidney separated by Hyrtl's exsanguinated zone.

According to Byron Robinson, the ventral and dorsal blood-vessels envelop the kidney like the shell of a clam, thus forming one-fourth inch dorsal to convex border Hyrtl's exsanguinated zone, which it is well to remember in making incisions into kidney, so as to lessen hemorrhage.

It is claimed that movable kidney is six times as frequent in women as in men. Some authorities claim that it occurs in 60 to 70 per cent of all women from twenty to fifty years of age.

If these claims be true, much useless surgery has been done on movable kidneys.

"Aran, Larrabee, and Robinson all claim that the great majority of movable kidneys do not need operation."

When is operation indicated?

1. On all movable kidneys complicated with Bright's disease or renal calculi.

2. On all movable, tender, painful kidneys; those accompanied with Dietl's crisis, and those with hydronephrosis.

3. Ferguson states all movable kidneys should be decapsulated and stitched up so as to prevent disease of kidney.

The right kidney is the one most commonly movable and affected, the left occurring in about three per cent of cases.

I here give a brief report of four cases of movable kidney, three of the right and one of the left, operated upon for Bright's disease.

Case 1.—Mrs. B——, aged twenty-three, widow. Admitted to Tabernacle Infirmary September 26, 1903. Movable right kidney, tender, painful. Albumin, granular and hyaline casts in urine. Decapsulation of right kidney; recovery. Urine cleared up in five weeks after operation. Patient left Infirmary and city very much improved.

Case 2.—Miss W——, aged twenty-seven, single. Movable right kidney, tender. Endometritis and salpingo-ovaritis. Weak, anemic. Urine contained albumin, leucocytes, granular and hyaline casts.

Operation November, 1903. Curettage of uterus, decapsulation of kidney. Some infection in wound after operation. Urine cleared up in six or seven weeks. From overexercise and indiscretion in diet, a few hyaline casts found March 15. No albumin. April 18: Urine, sp. gr. 1020, acid; no albumin nor casts. Patient in better health than for years. Gained 20 pounds in weight.

Case 3.—Mrs. B——, aged twenty-seven, widow. Admitted to Tabernacle Infirmary January 10, 1904, with endometritis and double salpingo-ovaritis. Some pelvic exudate; right kidney movable, tender. Urine contained albumin, leucocytes, granular and hyaline casts; elevation of pulse and temperature.

Patient refused abdominal section. Local and constitutional treatment for two weeks, then temperature normal. Operation: curettage of uterus. Kidney capsule so adherent that it could not be removed. Free hemorrhage from punctures and injury to capsule from efforts at removal. Stitched kidney to wall, passing sutures through substance of kidney. No albumin or

casts March 16. Patient has gained 15 or 20 pounds in weight, and is feeling well.

Case 4.—Mrs. H——, aged twenty-three, widow. Two years previous had right ovary and appendix removed; constant sufferer since from headaches, neuralgia, extreme nervousness. Left ovary enlarged, tender, painful. Left kidney movable and tender; heart on right side.

Operation at Infirmary March 8, 1904. Decapsulated left kidney and removed left ovary, which was enlarged, cystic, degenerated, about the size of hen's egg.

Patient gaining in flesh and general condition better. April 15, urine examined; no albumin or casts present.

All these cases were movable, diseased kidneys. For the first one or two weeks after operation the albumin and casts increased, and then gradually subsided and disappeared.

The fatty capsule was separated, pushed beneath and below kidney, and gauze drain inserted around lower pole of kidney in each case. Discharge was very free the first two or three days; gauze removed on the fourth to seventh day.

Case 4 was unusual, in that left kidney was movable and heart on right side; right ovary and appendix previously removed.

This brings us to the question as to operation for Bright's disease with kidneys in normal position. This question is not settled; time, experience, and statistics will be required. In cases unrelieved by diet and therapeutical treatment, and not due to a general constitutional condition, atheroma of the blood-vessels, or organic lesion of other organs, decapsulation is worthy of a trial.

In cases of pregnancy with profound uremic symptoms and suppression of urine, decapsulation should be considered.

Where neither kidney is movable it requires careful diagnosis to decide which kidney is diseased. It may be necessary in such cases to collect urine from both kidneys by means of the Harris segregator, or by ureteral catheterization. In most cases tenderness and pain on pressure of diseased kidney will be a very important aid in diagnosis.

It is claimed that nephritis rarely, if ever, occurs unilaterally. Decapsulation has established that where the movable kidney is operated upon the other will clear up if diseased, and has further established that the movable kidney is most likely to become diseased and precedes the one in normal position. It is also highly probable that investigation and operative work will prove that nephritis in some instances is primarily unilateral, later becoming bilateral.

Guiteras sums up an article based on reports of one hundred and twenty cases (*New York Medical Journal,* November, 1903) as follows:

"1. Chronic nephritis should not be operated upon until medical treatment has proved of no avail.

"2. The time for operation is when it is noticed that the process is advancing rapidly and we fear that the heart will soon become overtaxed.

"3. The operation for Bright's disease which has proved least dangerous, and which has shown the best results, is nephropexy performed on a single movable kidney.

"4. The most unfavorable cases for operation are those of diffuse nephritis.

"5. Cases of general anasarca with bad heart action should not be operated upon; if the heart action is good, an operation performed as a *dernier ressort* may give the patient a few extra months of life, provided they survive it.

"6. Where there has been a marked destructive process in the kidneys as a result of nephritis, the operation may relieve them for a number of weeks or months, but they generally fail again, and die when the new capsule begins to contract."

Tyson (*New York Medical Journal,* October, 1903) says: "My experience with this operation is limited to one case, but has been of a kind to satisfy me that it is an operation at least life-prolonging in many cases, and curative in some, and although its position may not as yet be precisely determined, it is an operation which has come to stay, and may even be extended to other cases than those of nephritis in its various forms."

Briefly considered renal decapsulation accomplishes three things:

1. Drainage, so long as the wound is kept open and the gauze is kept in place.

2. Relieves tension until the capsule is reproduced.

3. Increases vascularity by adhesions, provided the fatty capsule is pushed below and beneath the kidney and the fibrous capsule separated down to near the hilum of the kidney on each side, then folded inward toward kidney so as to expose a large raw surface of the kidney to the muscular structures and fascia.

It has been demonstrated that the renal capsule will reproduce itself after removal; thus the renal tension returns to some extent, which must be considered in deciding to operate.

Whether the new capsule will be as firm and produce as much tension has not yet been settled.

Before deciding to operate on kidneys in normal position we must consider:

1. Is it a general constitutional condition that produced the renal lesion, and does it still exist?

2. Are there organic lesions of other organs that interfere with circulation and function of the kidneys?

3. Is there a general arteriosclerosis present?

If these causes and conditions cannot be removed, then operation will only be of temporary benefit.

If the cause of the kidney lesion is transient in character or can be removed, then we may hope for more permanent results provided the operation is done before too severe structural change has taken place in the kidney.

The consensus of opinion is that most cases of movable kidney do not require operative measures. Many operators now favor more or less decapsulation in operating on movable kidneys. Goelet yet urges operation in nearly all cases of movable kidney, and prefers the U-shaped suture without decapsulation, while Ferguson advises decapsulation in all cases of movable kidney. Each operator will be governed by his predilection and individual experience.

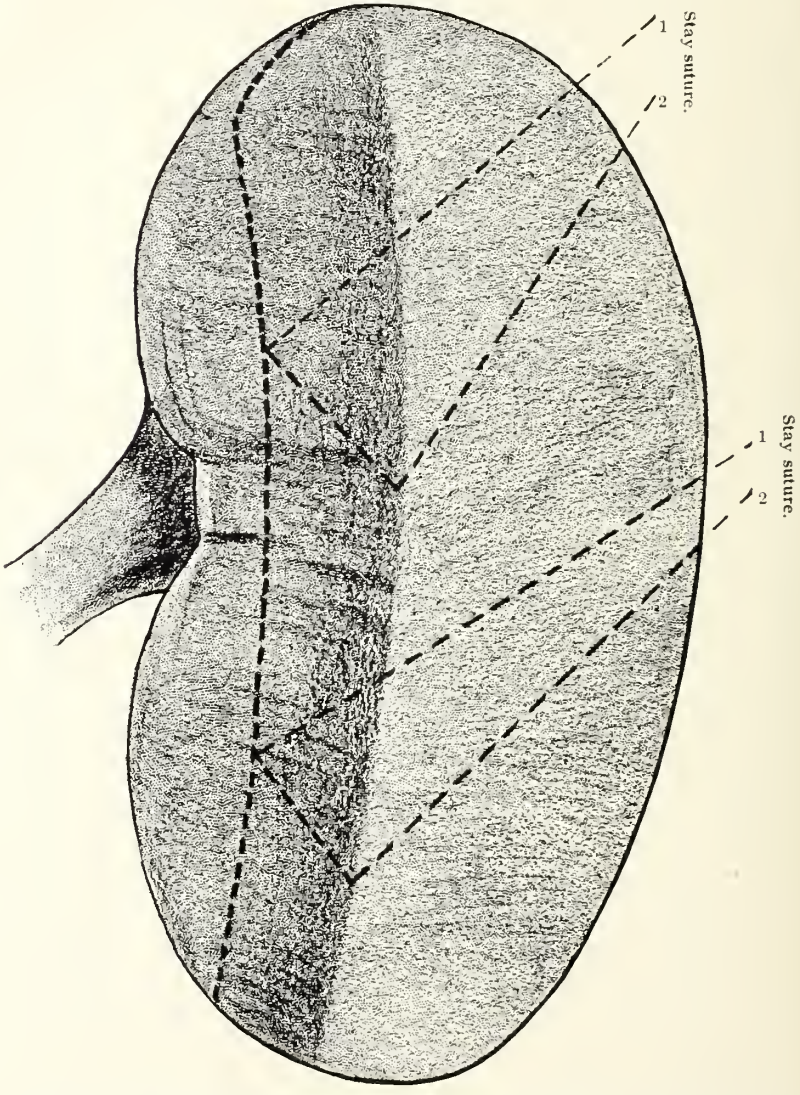
Technique.—With the patient properly prepared and in the proper position, we have the choice of two incisions—one vertical, on a line with the outer border of the erector spinæ muscle; the other one-half to one inch below, and on a line with the twelfth rib. Cut through skin, fat, fascia, cutting as little muscular tissue as possible, simply separating the fibers, avoiding the ilio-hypogastric nerve and artery; cutting through sheath of anterior part of quadratus lumborum muscle, separating fibers if necessary; cutting lumbar fascia. Reaching the fatty capsule, the kidney is pushed up from below by an assistant and located with finger, which avoids injury to colon. Cut the capsule and pull it up with several pairs of broad jaw or T forceps, thus delivering kidney through the incision. Separate fatty capsule from kidney. Incise fibrous capsule over convex border of kidney, and separate with handle of scalpel and finger down almost to hilum of kidney; now fold the fibrous capsule inward toward kidney on each side, so as to form a double thickness for fixation sutures, and expose more surface of kidney to muscles and fascia to form adhesions.

Introduce two sutures of No. 2 chromic catgut through double layer of fibrous capsule on each side at an angle from below upward.

Use medium-sized, round-point, curved needles, leaving

needle on the four stay sutures. At this time push fatty capsule beneath and below kidney to help support it, and replace kidney, the assistant supporting it until stay sutures are placed.

The upper posterior suture is placed first, carrying it from within outward, as high up as rib will permit, bringing it



Two stay sutures are introduced on each side, as in cut, before kidney is replaced—needles left threaded on ends marked 1 1, to save time in anchoring when replaced. Several additional No. 1 chromic catgut stitches including part of capsule are introduced after stay sutures are tied.

through muscular tissue, and tying; the second is placed at appropriate distance from the first, then the anterior two.

As many additional sutures of No. 1 chromic catgut as desired are introduced, including capsule of kidney; the same material is used in approximating muscles where needed, and silkworm-gut used in the skin. Gauze drainage is placed around lower pole of kidney. If kidney is much diseased and multiple puncture is practiced, then tubal drainage may be added if desired.

Wound dressed with gauze, absorbent cotton, adhesive strips, and bandage.

Patient is kept in recumbent position from four to five weeks; drainage removed usually in five to seven days. Dressings changed as required. Silkworm-gut stitches removed in eight or ten days.

Diet consists principally of milk with some well cooked cereals and fruits, with plenty of water to drink.

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NOTABLE ADVANCES IN OCULAR THERAPEUTICS.

BY HENRY B. HOLLEN, PH.G., M.D., DETROIT, MICH.

The repertory of the ophthalmologist has latterly been enriched by several contributions to the newer materia medica, which have reënforced a heretofore slender and meager armamentarium. Until quite recently ocular medicine could call to its aid hardly more than a scant dozen remedies of more or less importance, the chief of these being atropine, cocaine, copper sulphate, and eserine. At the present time, however, it can be said

to possess a rather formidable array of remedial agents, many of which are known to represent undoubted value.

Since the advent of cocaine the suprarenal active principle, adrenalin, stands out as the most important acquirement. This drug is recognized as a powerful astringent and hemostatic. By its local constringing effect on engorged and turgescent structures, acting immediately on the arterial muscular fibers themselves, it corrects the vasomotor irregularity, and in consequence the various manifestations of congestion. Therefore it is indicated in all forms of ocular inflammation, not merely of the conjunctival sac, but also of underlying tissues. When one drop of the 1:1000, or even the 1:10,000, solution is dropped into the eye the inflamed conjunctiva is quickly blanched. It rapidly penetrates into the interior of the eyeball by absorption into the anterior chamber, and ultimately exerts its astringent effect on the iris.

Adrenalin has been found valuable in many conditions involving congestion and exudation. In ocular traumatisms, with pain, lacrimation, and extravasation, it will render early and material relief. The principle of its action constitutes it an appropriate medicament, more especially in the following inflammatory processes: (1) conjunctivitis, (2) keratitis, (3) scleritis, (4) iritis, (5) dacryocystitis, and (6) trachomatous exacerbations. Its ability to reduce the ocular tension and vascularity has suggested its use in keratocyclitis and inflammatory glaucoma. Ferdinands has emphasized its power to effect absorption of subcorneal deposits. Corneal opacities, especially those consecutive to traumatism, have been promptly cleared up. In occlusion of the lacrimal duct the local instillation of the 1:5000 solution will correct the turgid condition of the mucous membrane, thus restoring the lumen of the duct.

To its ability to check hemorrhage—from a simple capillary oozing to the most persistent bleeding—adrenalin owes its value in surgical procedures, viz., tenotomy, iridectomy, enucleation, cataract extraction and removal of foreign bodies, pterygium, lipoma, and chalazion. The drug is also known to be of service as an adjunct to the use of cocaine and atropine. When the pupil is difficultly dilatable, it has been found that atropine accomplishes its purpose more quickly if it be followed by the instillation of the adrenalin solution (one drop of the 1:1000 solution at intervals of five minutes until total blanching of the congested area occurs). Experience has taught us that cocaine does not work to best advantage in contact with inflamed tissues;

on the other hand, its anesthetic action is much more satisfactory after devascularization of the part. Adrenalin prolongs the anesthesia produced by cocaine and lessens the danger of depression that is so often annoying when the latter is used alone.

The silver preparations have played an important rôle in ophthalmological therapeutics. The nitrate of silver, as utilized in the Credé method of combating ophthalmia neonatorum, has enjoyed general acceptance. It is a reliable remedy, but clinical experience has shown that it is extremely irritating in many cases. For this reason the organic preparations are more dependable, being less dangerous to the corneal epithelium and possessing the power of penetrating more deeply owing to their non-coagulating qualities. A number of these products have been introduced, and among them are nargol, protargol, argentamine, argonin, itrol, largin, actol, and abrin. Of these the two first mentioned are the best known. The organic silver preparations are serviceable in suppurative conjunctival inflammations, phlyctenular states, purulent dacryocystitis, gonorrheal ophthalmia, and ophthalmia neonatorum.

Chemically considered, nargol is a combination of silver with nucleinic acid, and is therefore a nucleide of silver, and protargol is defined as "a silver albumose." The first contains 10 per cent of the metal, and the latter 8.3 per cent. Although nargol contains a larger per cent of silver and may therefore be logically considered the more potent of the two, it has been found to exhibit the least reactionary disturbance. A comparison of these two agents is of interest, and is thus expressed by Schwartz after a series of experiments involving 200 cases:

"In 20-per cent solutions, series of 60 cases, pain and injection decidedly greater and more persistent from protargol; in 15-per-cent solutions, series of 60 cases, pain and injection decidedly greater from protargol; in 10-per-cent solutions, series of 80 cases, pain and injection slightly greater from protargol. Nargol is relatively non-irritating; possesses superior penetrating power; and in solutions of equal strength nargol is more stable and less irritating than protargol and equally as efficient."

Nargol is probably best used in five- to ten-per-cent solutions, and in these strengths causes little or no pain when instilled into the conjunctival sac. The employment of the twenty-per-cent solution is advocated by some and may be preferable in certain cases, as, for instance, persistent corneal ulceration and bad forms of gonorrheal ophthalmia.

Several succedaneii for cocaine have been put forward—

among these, holocaine, eucaine, and nirvanin; and as substitutes for atropine have been mentioned eumydrin, scopolamine, homatropine, and euphthalmine hydrochlorate. It must be said that these drugs are more or less *sub judice,* and whether one or more of them will replace cocaine or atropine in ophthalmology remains to be seen. Holocaine is favorably considered by some investigators, who hold that it possesses many qualities which make it superior to cocaine. The facts in its favor are that it does not dilate the pupil and does not disturb the accommodation nor increase the tension. Eucaine has two advantages over cocaine: (1) exhibiting no action on the heart, and (2) not being decomposed on boiling with water during the process of preliminary sterilization of a solution. Unfortunately, however, its advantages are considerably offset by the severe sensation of smarting and burning which the application of it produces.

As an aid in ophthalmoscopic examinations euphthalmine hydrochlorate is commended in some quarters, mainly on account of its brevity of action, absence of untoward effects, and minimum disturbance of the accommodation. Homatropine has superseded atropine to some extent. Its advantages over the latter are that it is much less irritating to the conjunctiva and safer for general use, in that it is less likely to bring about serious systemic disturbance. The action of homatropine is as prompt as that of atropine, though not so energetic, its effects subsiding in one-fourth the time. Eumydrin, probably the latest mydriatic advanced, is derived from atropine and is said to be less toxic. It is too early to speak definitely regarding its therapeutic action. A solution of five or ten per cent is equal to that of atropine, and no intoxication has been noted from a dose that would completely paralyze accommodation and accomplish pupilary dilatation.

An important medicament, combining both antiseptic and anesthetic properties, is the chloroform and acetozone derivative, chloretone. It has no mydriatic effect, and does not disturb the nutrition of the corneal epithelium as does cocaine. Moreover, it is non-toxic, and promotes asepsis when applied to an infected surface. Chloretone is useful as an anesthetic in minor operative work; for the removal of foreign bodies it is especially applicable. The danger of infection, always a possibility in these cases, is materially lessened by its use. Thirty drops of the warm, aqueous, saturated solution instilled into the eye will produce an anesthesia lasting eighteen minutes. It has been found that chloretone, when combined with cocaine, enhances the action

of the latter, necessitating a smaller portion of cocaine and reducing to a minimum the dangers of pain, swelling, and abscess that sometimes accompany the use of this drug when administered singly.

Aspirin, which is a salicylic synthetic, is lauded by Nanstatter as being useful in eye work as a specific antirheumatic preparation. He writes concerning the drug as follows: "Aspirin is of special value because of the profuse diaphoresis which it causes. Many eye affections are of a sort in which sweating is most important. In rheumatic and gonorrheal eye affections it is valuable. The writer observed one case of conjunctivitis, with diffuse swelling of the conjunctival tissue of the lids, in which local treatment by sulphate of zinc and nitrate of silver had no effect. The use of aspirin for two days was followed by prompt local improvement. Aspirin is of most value in treatment of painful affections of the eye."

As an antiseptic in ophthalmology mercuric chloride was at one time much used, but its toxicity has always been objectionable. Moreover, its penetrating power is not such as to make it a reliable medicament. As ocular antiseptics some organic derivatives of mercury have been introduced, among which are mercurol and sublamine. The superiority of the former commended it as a safe and efficient antiseptic agent. It penetrates deeply, since it does not coagulate albumens when brought in contact with the tissues. While a five-per-cent solution is used by some physicians, it is advisable that the milder solutions be employed in general work, especially in those cases in which the tolerance of the eyes toward the stronger one has not been demonstrated. Mercurol, in ointments, is regarded by some writers as superior to yellow oxide. In syphilitic iritis and other ocular evidences of this infection, mercurol, internally administered, has met with general success.

The value of hydrogen peroxide for controlling suppurative processes has long been recognized. A closely associated drug has recently been introduced under the name of acetozone (benzoyl-acetyl-peroxide), which, though better known as an intestinal antiseptic, has been demonstrated to be a good conjunctival germicide. For the control of bacterial infections of the eye it is used in a solution of one grain of the drug to two fluidounces of water. This solution is efficient in cases of corneal ulcerations and other pus conditions; in the former disorder acetozone instillations are alternated with atropine, say at intervals of three to four hours.

On account of its irritant reactionary effects copper sulphate is now being superseded by cuprol, which is a combination of copper with nucleinic acid, and which, while possessing all the therapeutic efficacy of the sulphate, eliminates almost entirely its objectionable features. The drug contains about six per cent of the metal; it does not coagulate albumens and is not precipitated by alkalies. The use of cocaine previous to its application is superfluous, and when a five- or ten-per-cent solution or the dry, impalpable powder is applied little or no pain follows. Its uses are similar to those of the inorganic salt, conjunctivitis, marginal blepharitis, trachoma, and phlyctenular conditions being among the maladies in which it is especially efficient. It is of distinct service in chronic conjunctivitis with cicatricial alterations of the mucous membrane after trachomatous disease. In conjunctival cases it reduces the hyperemia and discharge and facilitates the absorption of granulations.

Von Sicherer, after a protracted period of experiment, commended cuprol highly in a communication to the Ophthalmologische Klinik. "Notable advantages," he writes, "in the use of this organic copper preparation instead of the inorganic copper salts—for example, copper sulphate—lie in the facts that, first, even a ten-per-cent solution produces either no pain at all or very slight pain, and secondly, it causes very little irritation to the tissues. Comparing cuprol with the best organic copper preparation heretofore available, cuprargol, the latter causes much greater irritation to the tissues, and the objectionable sequelæ are much more pronounced." Other ophthalmologists lay considerable stress on the slight discomfort following its use, which, when the severe pain consecutive to the application of the copper pencil is considered, becomes a desideratum not to be overlooked.

No attempt has been made in this paper to cover the newer materia medica in its entirety, the object being to point out only those medicaments which are of especial importance and which are adjudged of service in making easier and more effectual the treatment of ocular disorders.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

EUROPEAN EXPERIENCE IN DECAPSULATION OF THE KIDNEY.

The operation of decapsulation of the kidney originated by Edebohls has received the consideration of American surgeons to a sufficient extent to suggest some definite ideas of its range of application. Foreign experience with this surgical expedient is now coming to hand, and the judgment passed upon it will be received with interest.

Rosenstein, of Berlin, has communicated the results obtained in renal decortication by Edebohls's method in Israel's clinic. His experience is based on six observations. One case died shortly after the operation, the second became progressively worse, in two other cases no favorable change was observed, and in the other two cases a slight improvement was noticed. These results do not correspond with the favorable results obtained by the author of the operation, whose last statistical report indicates 18 per cent of permanent cures and 43 per cent of improved cases. Rosenstein thinks that the cases operated on by Edebohls were far from being cases of true nephritis, and that he must have included cases of nephroptosis or those of unilateral nephritis, which cannot enter into comparison with those of true nephritis.

Londek, of Berlin, has made certain laboratory experiments which cause him to think this operation leads to hemorrhage and necrobiotic changes in the cortical stratum of the kidney, this portion of the kidney partly depending for nutrition upon the vessels which bind the fibrous capsule to the renal parenchyma.

Babes thinks that the operation may be useful for placing the organ in surroundings more propitious to the formation of a supplementary circulation.

Stern tried the operation three times, but could only record transitory improvements, all his patients dying from progressive renal degeneration.

Reidel had a case in which decapsulation was done at the patient's request. The patient said he felt better, but Reidel considered the improvement due to autosuggestion.

Kummel tried the operation in a certain number of cases, but with results which were not encouraging. Several of his operations, however, were done too recently to permit him to come to a negative conclusion on the value of the operation. He had by careful investigations determined that he operated only in cases of true bilateral nephritis, so that his results might have a definite bearing on the main problem.

All things considered, the experience of foreign observers does not seem to indicate that this operation has found ready admission into the realm of actual surgical expedients. Time alone, however, can assign it its true position.

EDITORIAL NOTES.

Prof. Shibasaburo Kitasato.

Among notable visitors to the St. Louis Exposition, none will receive warmer welcome from the medical profession than Professor Kitasato, who has made so many valued contributions to science. Professor Kitasato is a graduate of the Medical College of the Imperial University of Tokio, Japan. After graduation he was sent by the Japanese government to Germany to complete his course in medicine. He worked under Professor Koch, in his "Institute," for a period of 4½ years. During his sojourn in Germany he made many valuable discoveries, among them that which made his name immortal: he ascertained the cause of tetanus conclusively, obtaining a pure culture of the tetanus bacillus. The principle of the tetanus antitoxin was applied to diphtheria, and this led to the discovery of diphtheritic antitoxin, he working conjointly with Professor Behring. Diphtheritic antitoxin is now manufactured extensively in all

parts of the world, and confers incalculable benefit upon mankind at large. At this time His Majesty, the Emperor of Japan, graciously gave Kitasato a special fund for furthering his cherished investigation into this important branch of medical science. He, moreover, received the degree of "Igakuhakushi," the highest academic honor. It is useless here to add that such an Imperial encouragement and academic degree constitute a great honor in Japan.

Before he left the Koch Institute Kitasato was offered a professorship by many a foreign university, but he declined all such offers, by reason of his patriotism, which led him to introduce this new branch of medical science into his own country. After his return to Japan he established the Institute for Infectious Diseases, the object of which is to investigate the cause of infectious diseases and devise prophylactic and curative methods. This Institute was opened in 1892 to the public, and since that date it has been under Kitasato's control.

In 1894, when plague broke out in Hongkong, the Japanese government appointed Professor Kitasato and his associates to proceed there and investigate the cause of this terrible disease, of which the world had hitherto had no practical knowledge. A few days after his arrival at Hongkong, Professor Kitasato discovered the bacillus which was the cause of this disease. On account of this meritorious service to the state he was honored by His Majesty, the Emperor, with the Decoration of the Third Order of the Rising Sun. This valuable discovery made him the leading bacteriologist in the world.

In 1896, under the instruction of the government, he established the Imperial Serum Institute, with the object of supplying serum of better quality to the general public. Since the establishment of this Institute he has been its director. The government appointed him the president of the Imperial Lymph Institute, which supplies the lymph universally used throughout the whole country.

Professor Kitasato is at present the president of each of the three institutes above mentioned, which are under the supervision of the Minister of State for the Interior.

Under the able direction of Professor Kitasato many valuable contributions have been made by these institutes for the benefit of medical science. For instance, we may point out (1) the discovery of the dysentery bacillus by his assistant, Dr. Shiga (Institute for Infectious Diseases), (2) the production, for the first time in the annals of the world, of the most effective pest

serum (Serum Institute), and (3) the method of manufacturing non-humanized lymph, which is produced without passing through a human body (Lymph Institute).

Professor Kitasato, besides, holds the following offices in the service of the government: Vice-president of the Central Hygienic Association; adviser to the Sanitary Bureau, charged with the work of preventing the transportation of infectious diseases to Japan. He is also the president of the Japan Private Hygienic Society, and honorary member of the American Society of Tropical Medicine, and other scientific associations, domestic and foreign.

The Fumigation of Public Buildings.

The suggestion offered by Health Commissioner Darlington, of New York, of fumigating churches, theaters, and all buildings used for public gatherings immediately after their use is an excellent one. The majority of colds are contracted not so much from the much dreaded draughts of cold air as from the intimate contact of some one suffering from a coryza. Theaters and churches are as a rule notorious for their inadequate system of ventilation. To enter one of them from the pure outside air about the middle of the session is to be struck at once with the foulness of the atmosphere. That this foul air is the cause of the majority of colds, influenzas, and other air-borne diseases there is no doubt. In the interest of public health ordinances should be passed compelling theater managers to at least thoroughly air their houses after each performance, and at stated intervals, say once a week, to thoroughly disinfect them with formaldehyde.

Door-mats as Breeders of Disease.

That the modern door-mat is an agent for the dissemination of many varieties of disease germs there can scarcely be a doubt. The usual form of mat is the receptacle of all kinds of filth with which the streets abound. After a spell of bad weather the usual mode of cleaning door-mats is to pound vigorously a near-by wall with one, thus liberating clouds of dust, laden with innumerable bacteria, not only to the discomfort of every one in the immediate vicinity, but in reality making the process a very dangerous one. The method of Oriental nations of removing their shoes before entering dwellings is a custom we might adopt with much benefit to ourselves.

ITEMS AND NOTES.

JAPAN has 31,000 physicians and eight medical schools.

A NUMBER of cases of smallpox are reported from Niagara Falls.

IT is stated that smallpox is steadily spreading in the Asiatic provinces of Turkey.

THE two healthiest counties in the United States are Suffolk, L. I., and Berkshire, Mass.

THE May mortality of Chicago was the lowest on record, the death-rate being only 13.44 per 1000.

THE annual meeting of the State and Provincial Boards of Health was held in Washington last month.

THE Walter Reed Memorial Association has been incorporated under the laws of the District of Columbia.

THE citizens of St. Louis have established a laboratory for the distribution of pure milk to the poor during the summer.

QUARANTINE has been raised from the League Island Navy Yard. Cerebrospinal meningitis and measles were the cause of the isolation.

DAIRY AND FOOD COMMISSIONER WARREN of Philadelphia has instituted a campaign against the dispensers of deleterious and impure summer drinks.

THE City Council of Cleveland, Ohio, on May 31 passed an ordinance making it a misdemeanor to use, give away, or sell a toy pistol or blank cartridge in this city on the Fourth of July.

THE Chicago Board of Education has decided to establish medical inspection in all schools. Teachers are to report diseases and insanitary conditions where the general health is menaced.

THE Director of the Chicago Municipal Laboratory, Dr. J. F. Biehn, recently sent out a warning of danger of an epidemic of rabies. Muzzling of all dogs that appear in public is the remedy advocated by him.

The National Association for the Study and Prevention of Tuberculosis was formally organized at Atlantic City June 6 with the following officers: President, Dr. E. L. Trudeau, Saranac Lake, N. Y.; secretary, Dr. E. Jacobs, Baltimore.

Dr. Koch has recently arrived at Cairo from West Africa and is being consulted by the Egyptian Sanitary Department on the epidemic of bovine typhus which now rages in Egypt, and as to the measures being taken for its suppression. It is probable that Dr. Koch will also be consulted regarding bubonic plague.

A bill providing for the establishment of a bureau and a laboratory for the study of the criminal, pauper, and defective classes has been introduced into the New York State legislature. It is based on a similar bill which has already been submitted to Congress. The work of the bureau would consist in the gathering of data of a sociological, pathological, or abnormal nature.

Three of the most prominent members of the medical faculty of the University of Vienna have recently celebrated the anniversary of the day upon which they obtained their M.D. degree and were received into the profession. The anniversaries thus celebrated are the fiftieth, fortieth, and thirtieth—the fiftieth in the case of Weinlechner, professor of surgery; the fortieth in that of Toldt, professor of anatomy; and the thirtieth as regards Zuckerkandl, also professor of anatomy.

Among the resolutions adopted at the International Antituberculosis Congress, held at Copenhagen during the last week in May, were those favoring the study of hygiene in schools and universities, uniform schedules for tuberculosis statistics, the appointment of a commission to consider the question of the predisposition to tuberculosis, and the enforcement of regulations against expectoration in places of public assemblage. Paris, says an exchange, was selected as the place for the next congress, which will be held in 1905.

At the twenty-eighth annual meeting of the American Dermatological Association, which was held at the International Hotel, Niagara Falls, on June 2 and 3, 1904, the following officers were elected for the ensuing year: President, Dr. William T. Corlett, of Cleveland, Ohio; vice-president, Dr. Frank H. Montgomery, of Chicago; secretary and treasurer, Dr. Chas. J. White, of Boston; member of Council, Dr. John A. Fordyce, of New York. It was decided to hold the next meeting of the association in New York City on December 28, 29 and 30, 1905.

It was rumored not long since, says an exchange, that Dr. Lapponi had been dismissed as physician to the Pope, the Pontiff, according to reports, desiring the services of his Venetian physician. It was also said that Dr. Lapponi, being a Freemason, had insisted on the Pope leaving the Vatican, taking the ground that the Pontiff was no longer a prisoner. Dr. Lapponi, however, in an interview with the representative of the Associated Press, says he has never been asked to resign and does not intend to resign, as he is apparently enjoying the entire confidence of the Pope. He adds that he is not a Freemason, and has no intentions of becoming one.

In San Antonio, Texas, a new force has been introduced in the warfare against the mosquito. Dr. Kohnke, the health officer of New Orleans, has met with great difficulties in his endeavors to "organize victory" against the baleful Anopheles, and this led him to conceive the idea of enlisting the aid of schoolboys in the work. He preached his new children's crusade at Laredo, San Antonio, Houston, and Galveston, and with the coöperation of the superintendent of the Board of Education of San Antonio he enrolled a number of the schoolchildren in his antimosquito army. It is proposed to carry on the fight on the same plan in New Orleans. It is certainly a happy thought to utilize the natural destructive tendencies of schoolboys for the extermination of these pestilent insects.

The opening and dedication of the new medical laboratories of the University of Pennsylvania were held June 11. The exercises, says an exchange, were attended by physicians from all parts of the country, and many prominent European physicians were present. A special train conveyed a large contingent of members of the American Medical Association from Atlantic City. The address of presentation was delivered by J. Vaughan Merrick, member of the Board of Trustees, and formal addresses were made in the Laboratory of Pathological Histology by Dr. Henry P. Bowditch, professor of physiology, Harvard University; Prof. R. H. Chrittenden, director of the Sheffield Scientific School, Yale University; Dr. George Dock, professor of medicine, University of Michigan; and Dr. Horatio C. Wood, professor of materia medica, pharmacy, and therapeutics, University of Pennsylvania. In completeness of construction and equipment the new building is without a rival. The erection of the laboratories has occupied four years, and has cost, exclusive of ground and equipment, $700,000.

It is customary among physicians and physiologists to refer to the physiologic 0.6-per-cent salt solution as "normal saline solution." The *Pharmaceutical Journal* claims that this is liable to be confounded with the chemist's normal volumetric solution of sodium chloride which has occasionally been supplied for physiologic purposes when normal saline solution was asked for. In one case the patient died; in the other the result is unknown. Physiologic salt solution is usually wanted in a hurry, and it is likely that in the confusion such an error might be made. As the chemical normal saline solution is nearly ten times as strong as the physiologic solution, disastrous results are likely to happen. Since this chemical saline solution is but one of a series of volumetric solutions, each of which is styled "normal," chemists can hardly be asked to change the name. It would therefore be better for physicians not to use the term "normal" saline solution as applied to the 0.6-per-cent solution of sodium chloride for physiologic purposes, and to adhere carefully to the term "physiologic" or "medical" salt solution.

Prof. Elmer Gates, director of the Laboratory of Experimental Psychology at Washington, claims (*Practical Druggist*) to have produced the first absolute chemical vacuum known to science, and from which he has created rays which exhibit strange phenomena never mentioned as accompanying the Roentgen rays. The method of making the absolute vacuum was so simple and apparently effective that it is worthy of notice. He took a large, thick test-tube, made of the hardest potash glass, whose melting point was at an extraordinary high temperature. Into this he poured, while in a liquid form, a much softer glass, whose melting point was at a comparatively low temperature. Allowing the liquid glass to cool gradually, it formed a solid mass with the tube. After attaching a suction piston to the mouth of the test-tube, the whole mass was slowly heated for about thirty hours. At the end of that time the softer glass became liquid again, while the tube still remained solid. By forcing the piston outward the greater part of the molten glass was expelled. Enough was allowed to remain at the mouth of the tube to seal it by cooling in that position. Back of this stoppage there was left a space where there had never been the least quantity of gas, hence a complete and perfect vacuum.

An exchange says that the physical deterioration of the British people still occupies some of the attention of a Parliamentary committee. Many causes have been alleged for this condition, from

the use of soap and the cold bath to alcoholic excess and the consumption of too much meat. The committee now propose to measure and weigh every person in the land in order to determine in the future whether the tendency has been continuously toward a decline of stature and strength. Also it is proposed to adopt the American system of instruction in the primary schools as to the deleterious effects of alcohol and tobacco on mind and body. That there is still a diversity of opinion among experts as to the effects of alcohol and tobacco (in moderate quantities) on the system has not deterred the Americans from adopting text-books which make the most positive affirmations on this subject. Many men of science vehemently oppose the doctrines of these public school text-books. The English will start with the firm belief that both tobacco and alcohol are everywhere and always bad. They confidently expect to find that the children of smokers and drinkers fall below the average stature and intelligence of the children of total abstainers. The results of investigation may confirm their opinions, but it is just as well to be prepared for a disappointment.

An exchange commenting on a medicolegal point says: "In trials for murder the point has sometimes been raised by the defense that death had not resulted from the wound inflicted by the accused, but from the subsequent surgical treatment, and that this should be considered in mitigation of the crime. We have the converse of this view in the case of the woman who stuck a knife into a man's heart and has been in jail awaiting the result of his injuries. By all the laws probably the man ought to have died. The wound was of a kind generally recognized as fatal. But the surgeons got hold of him, sewed up his heart, and in due time he recovered. Thereupon the woman was discharged from custody, and the man, in the exuberance of his delight, declares that she shall not be prosecuted. Some curious questions, moral, ethical, and legal, are raised by this extraordinary occurrence. How far was the degree of guilt or innocence which attached to the woman's act affected by the degree of perfection which surgery has attained? A few years ago a man so wounded would surely have died, and the person who inflicted the wound would have been convicted of manslaughter at least. Now the surgeons by a rare chance saved his life, and as nobody is the worse off, no penalty is incurred. Are we to regard science as the handmaid of crime? And suppose the surgeons had failed, who would have been responsible?"

NEW PUBLICATIONS.

NEUROLOGICAL TECHNIQUE.

This little book is the outgrowth of laboratory outlines for the study of neural architecture and pathology. It is not so detailed as to be cumbersome, and presents succinctly directions for using the many methods of laboratory study which serve to best bring out the various component tissues of the nervous system, giving formulæ for the different reagents used. The Nissl, Bethe, Apáthy, Golgi, Marchi, and other methods (some twenty in all) are taken up in sufficient detail to make the book a helpful guide to the student of neural histology. Appended is an anatomical nomenclature (B N A).

Neurological Technique. By Irving Hardesty, Ph.D., Instructor in Anatomy, University of California; formerly Assistant in Neurology, University of Chicago. The University of Chicago Press.

SALINE THERAPY.

Another of Professor Von Noorden's little monographs will be welcomed by the profession, dealing this time with the uses of sodium chloride waters in conditions of disturbed gastric secretion, as well as in gout, diabetes, and other diseases of nutrition. The results achieved by Von Noorden are based upon actual clinical data, and must therefore acquire a significance which laboratory experiments sometimes lack. His conclusions form an important contribution to the therapeutics of various affections.

Disorders of Metabolism and Nutrition. By Carl Von Noorden. Part V: Concerning the Effects of Saline Waters on Metabolism. New York: E. B. Treat & Co., 1904.

PRACTICAL MEDICINE SERIES.

The Year-book publishers continue to submit their excellent compendiums of medical advance. The last three volumes deal with general medicine, obstetrics, and gynecology. These volumes, published at monthly intervals, furnish the practitioner with all recent knowledge in the department with which each separate volume deals, and together supply him with a year-book which he has received by instalments in advance.

Practical Medicine Series. Vol. IV, Gynecology; Vol. V, Obstetrics; Vol. VI, General Medicine. Under the Editorial Charge of Gustavus P. Head, M.D. Chicago: The Year-book Publishers.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Hand Disinfection and India-rubber Gloves.

In a paper before the Leipzig Obstetrical Society, O. Zweifel (*British Gynecological Journal,* February, 1904) said: "We have to face the fact that rapid disinfection of the hands is very difficult in all cases, and that when they are laden with pathological germs it is quite impossible, and we must therefore accept as fundamental principles (1) that our hands should be protected from exposure to infection, and (2) that india-rubber gloves should be worn in performing operations. It is a matter of principle with us to wear india-rubber gloves during every operation, obstetrical or gynecological, and even in vaginal examinations in Friedrich's way, and we can assure any of our colleagues who may hesitate to adopt this principle for fear of its diminishing the acuteness of perception by touch that this is merely a question of practice which will be overcome in a very short time."

Zweifel did not adopt this principle because of dissatisfaction with his earlier results, nor because of failure experienced with the methods of hand disinfection he had tried, but because in the first place his skin suffered from the various disinfectants employed, and secondly because operating in india-rubber gloves excluded the danger of transferring infectious germs in cases of fever. He could not assert that his results had been sensibly improved by the use of gloves, but after overcoming the initial discomfort he had never intermitted the practice. He is convinced that the use of these gloves is no mere evanescent fashion, but will become more generally adopted in medical practice, until it will seem incredible that even any anatomical section or surgical operation on the cadaver should be performed without them.

Enterostomy in Peritonitis.

R. B. Greenough (*Boston Medical and Surgical Journal,* May 19, 1904) says the obstruction of the intestine in diffuse peritonitis is the result of a combination of causes. The most important cause is the suspension or paralysis of peristalsis; paralysis of peristalsis is due to inhibition, to toxic paralysis, and to the paraly-

sis of distention; mechanical causes, such as infiltration of the bowel wall and light adhesions in certain cases, contribute to this paralysis; pure mechanical obstruction due to adhesions is the result of chronic or local peritonitis of at least some days' duration; enterostomy is indicated in addition to other operative measures in the graver forms of diffuse peritonitis; its greatest advantage is the drainage of the gases and decomposing contents of the bowels and the relief of paralysis of peristalsis; by enterostomy the surgeon obtains direct control over the intestine for lavage and for the introduction of stimulants, nourishment, fluids, and cathartics. For the relief of paralysis of peristalsis primary enterostomy is to be preferred to the secondary operation. Enterostomy is best performed by the use of the Mixter tube. The cæcum is the most satisfactory part of the bowel for a primary enterostomy, and the jejunum is to be avoided. Spontaneous closure of the fistula may be expected when the cæcum is opened, if the opening is kept below the level of the parietal peritoneum. By the systematic use of enterostomy in the graver forms of diffuse peritonitis the number of patients dying on the second, third, and fourth days after operation is reduced. The symptoms of visible peristalsis and spasmodic pain in intestinal obstruction indicate a mechanical cause for the obstruction. The persistence of these symptoms, unrelieved by enemas and cathartics, is an indication for operation. Under these circumstances the cause of the obstruction should be removed if possible by operation. In advanced cases of obstruction of this form enterostomy of the coil of intestine nearest above the obstruction should be done.

THE OPERATIVE TREATMENT OF OLD DISLOCATION OF THE HIP.

D. Ridygier (*British Medical Journal*, May 28, 1904), whilst holding that surgical exposure of the displaced head of the femur is the best method of reducing an old dislocation of the hip, points out that such treatment is not free from serious risk. The chief dangers of the operation—which are shock and infection, due for the most part to very forcible and violent manipulation of the displaced bone and to consequent laceration of the soft parts—may, however, the author states, be prevented by selecting such a method of operation as will allow of free exposure of both the upper end of the femur and the cotyloid cavity. The method advocated in this paper is a modification of Ollier's operation, in which a curved incision with its convexity downward is made over the outside of the joint and the hip of the

great trochanter is detached by chiseling. In the author's method the lowest part of the convexity of the flap is placed about 7 centimeters below the tip of the great trochanter, descending 2 centimeters below the level of that of Ollier's incision. The posterior limb of the incision is carried upward and backward to the posterosuperior spine of the ilium, and the anterior limb more directly upward toward the anterosuperior spine, over the interspace between the tensor fasciæ latæ and the gluteus medius. The trochanter major is then chiseled through very obliquely, so that after the reduction of the head of the femur, even in cases in which the muscles are much contracted, the surfaces of the fragments may be brought into contact, though this be partial, and thus osseous union of the detached trochanter and subsequent restoration of the functions of the muscles attached to the process may be assured. The author strongly advocates this operation in cases of old unreduced luxation of the hip, as he has been convinced by his own experience that it affords free exposure of the cotyloid cavity as well as of the head of the femur, and thus facilitates an easy and gentle reduction.

Acute Pancreatitis.

D. Woolsey (*British Medical Journal*, May 14, 1904) comprehends under the term "acute pancreatitis" those cases which commence suddenly with abdominal pain, vomiting, hiccoughing, and intense rigidity of the abdominal muscles. The temperature is usually subnormal, the patient rapidly collapses, and dies about five days after the commencement of the illness. A mistaken diagnosis of ileus or perforative peritonitis is not uncommon. Alcoholism, adiposity, gall-stones, arteriosclerosis, and abdominal injuries predispose to the condition, which is essentially an acute infection of the pancreas. The head of this organ is enlarged; hemorrhages into its substance are not always present. In the early stages fat necrosis is generally absent, but usually appears later. The subacute cases are more difficult of diagnosis; glycosuria in the early stages often disappears later; fat and undigested muscle in the stools are aids to diagnosis. The treatment of acute pancreatitis consists in the performance of laparotomy as early as possible, the evacuation of the infective fluid in the peritoneal cavity, and drainage. Relapses may occur.

The writer gives details of three cases successfully treated: two were operated on on the third day of the disease, the third twelve hours after the onset of symptoms. In one case fat necro-

sis was found; in all three there was enlargement of the head of the pancreas. The fluid in the peritoneal cavity contained in one case streptococci, in another diplococci, in the third it was not examined bacteriologically. The writer concludes that when such fluid is not evacuated early a general septic peritonitis must follow.

Tuberculosis of the Urinary Bladder.

A. B. Johnson (*Medical News,* May 14, 1904) draws the following conclusions in regard to the treatment of tuberculosis of the bladder: (1) If other tuberculous lesions of the genito-urinary tract exist, their operative removal is sometimes followed by improvement and even cure of the process in the bladder, provided the patients are placed under the most favorable hygienic surroundings. (2) Operative treatment of the bladder alone in the presence of tuberculous lesions of other portions of the urinary tract is usually harmful rather than beneficial. (3) The local treatment of the tuberculous bladder by means of injections or applications through the urethra is generally useless and often very deleterious. (4) The internal administration of the drugs known as urinary antiseptics is generally useless. (5) Palliative operations, such as suprapubic drainage, may be useful in advanced cases. (6) The general or hygienic treatment, suitable climate, out-of-door life, etc., offer these patients the best hope of recovery. (7) Such hygienic measures should be preceded by the operative removal of tuberculous foci in the kidney, the epididymis, the prostate, and the seminal vesicles, if such exist, and the patient is still in sufficiently good condition to bear the operative procedure. (8) In those rare cases where the bladder alone is affected over a moderate area only, the operative removal or destruction of the diseased tissue may be followed by improvement and even cure.

Talma Operation for Ascites Following Cirrhosis of the Liver.

J. H. Jacobson (*Cleveland Medical Journal,* June, 1904) says that the principal cause of ascites in cirrhosis of the liver is the obstruction of the portal circulation. The percentage of cures or improvements following the operation is about 49.08. The operation has been of benefit in cases of hypertrophic cirrhosis without ascites, and promises some hope in cases of ascites due to cardiac disease.

For the success of the operation it is necessary that a sufficient number of normal liver cells be present.

The operation should be performed early in the disease, in anticipation of ascites, before serious complications have taken place.

Simple scarification of the omentum and a corresponding area on the parietal peritoneum is sufficient to secure success. Scarification of liver, gall-bladder, and spleen is not essential. The dietetic treatment of the patient should be continued after the operation, and alcohol in every form strictly avoided, in the hope of stopping the destruction of liver cells and the formation of cicatricial tissue.

Prostatectomy: Report of Fifty-one Cases.

John B. Murphy (*Journal of the American Medical Association,* June 11, 1904) claims the perineal route to give the best ultimate results. It is accompanied by less danger than the suprapubic or Bottini operations as regards (*a*) hemorrhage; (*b*) sepsis; (*c*) injury to the neighboring structures; (*d*) life. In fleshy patients the hemorrhage is more profuse, repair slower, and the urethral fistula lasts for a longer time.

The drainage is excellent, and favors rapid restoration of the bladder to its normal condition.

The period of wound repair is much shorter than by the suprapubic route. All cases had primary union down the drainage tube.

The vesical control is almost uniformly good.

The sexual power is usually destroyed. The relief of vesical irritation is great, and the frequency of urination is reduced to about normal.

Resection of the Knee-joint.

Blauel (*Beiträge z. klin. Chirurgie,* Bd. 42, 1904) reports the results of 400 cases of tubercular knee-joint treated by him in the last ten years, in the majority of which he resected the joint. Three hundred and forty-three cases were discharged as cured, and in seventeen cases secondary amputation was necessary. He figures 1.75 per cent mortality, 87.9 per cent cures, and of these latter 15.3 per cent died of general tuberculosis. By the conservative treatment, such as the injection of iodoform glycerin, he gained good results in 45 per cent and bad in 51 per cent. He

concludes from this that it is advisable to make a resection of the knee-joint in all cases which do not respond rapidly to conservative treatment.

MEDICINE.

The Origin of Foci of Infective Inflammation in the Bones, and Their Relationship to the Osseous Arterial Distribution.

C. B. Paul (*Scottish Medical and Surgical Journal,* June, 1904) says that tuberculous foci of disease are mostly caused by infective emboli or small bacterial plugs. They occur preferably in the long bones, in the metaphysis and epiphysis, but foci can also occur in the shaft from an embolus or endarteritis of branches of the nutrient artery.

Spreading tuberculous disease of the shaft can be produced as well by an embolic process as by the extensive deposit of virulent bacteria—*e.g.,* in the case of miliary tubercle.

The affection of the diaphysis of the short long bones is explained on anatomical grounds, as the large nutrient artery breaks up into numerous fine twigs immediately after entering the bone. The part played by a trauma in connection with the subsequent tuberculous disease is generally that it lights up an old focus, but it is also possible that a tuberculous embolus or mass of bacilli may settle at the seat of the injury.

Suppurative foci due to staphylococci, streptococci, and pneumococci, which occupy the same situations as tuberculous foci in long bones, in the vertebræ and the short bones, are also due partly to embolic processes. The vessel plug originates from a primary deposit of pus, around which there is always a thrombophlebitis, as an infective embolus, or a colony of cocci.

The preponderance of staphylococci as the cause of osteomyelitis is due to the tendency they have of coalescing and forming colonies, by which a true bacterial embolus may be formed round a single coccus, especially in the fine vascular loops in the neighborhood of the epiphyseal cartilage.

Diffuse osteomyelitis, whether single or multiple, is produced by the spontaneous, *i. e.* non-traumatic, deposit of virulent bacteria in the medullary cavity, or is caused by embolism of twigs of the nutrient artery or branches of the metaphyseal arteries.

The part played by a trauma in the production of osteomyelitis may be threefold: (*a*) Cocci circulating in the blood may

gravitate to the site of injury—*i.e.*, a spot of lowered vitality; (*b*) a trauma may affect a bone in whose marrow organisms may be lying, taken up from the blood-stream by the vital property of the marrow; (*c*) it may light up an old focus to fresh activity.

The great vascularity of a growing bone is the most important factor in the production of osteomyelitis, but the physiological attraction of the bone-marrow for microörganisms circulating in the blood plays a by no means insignificant part.

The greater relative frequency of tuberculous affections of bone over other forms of infection depends on the fact that the setting free of bacterial emboli is more common from a primary focus of tubercle than from an acute suppurative focus.

The Duty of the Physician to His Patient Through the Surgeon.

Henry Small (*American Medicine*, May 28, 1904) says it would seem to behoove us who practice internal medicine to look upon abdominal pain and accompanying symptoms with a new and enlightened interest. The female pelvis, the appendix, the gall-bladder, the kidneys, the duodenum, and the stomach present an array of disorders meeting us on every hand. It is impossible in many cases, through a careful review of the history and a study of the symptoms of the disease, to make a correct differential diagnosis.

The affections under consideration admit of but incomplete palliation under medical treatment, and such temporizing may jeopardize the life of the patient. Expert surgery is capable of curing these diseases, and when operation is undertaken while the organism at large is still normal the danger of fatality is very small. Every abdominal symptom should suggest to the physician the expediency of operation. If careful consideration points to a "surgical condition" the diagnosis of the definite seat of the lesion is a minor matter, and, as has been said elsewhere, may well be left to the exploratory section.

To wait for the development of certain classic symptoms, such as jaundice with gall-stones, or hematemesis in gastric ulcer, will in the majority of cases disturb the aim of the physician—the relief of his patient.

Discriminating diagnosis and early operation when indicated must greatly increase the percentage of cures. The confidence of the public will thereby be welded to us, and patients will trust

themselves to our advice while their vital forces are still capable of responding to every therapeutic endeavor.

It is far beside the mark of the writer's observations to palliate in any way the crime of indiscriminate surgical operation.

True conservatism may demand now action, now delay. No one understands better than the true surgeon that surgery often demands that he watch and wait. The spirit of what the author means to say is that all rays of light come from one focus—diagnosis.

Animal Tuberculosis and its Relation to Human Health.

M. P. Ravenel (*Montreal Medical Journal,* June, 1904) says that at the present time the weight of evidence is in favor of the view that the chief source of infection in children as well as in adults is the human tubercle bacillus, and that the portal of entry is the respiratory tract. It has, however, been proven conclusively that the bovine tubercle bacillus is responsible for a certain proportion of the deaths from tuberculosis in children, and there is strong evidence at hand to show that the number of children infected from bovine sources is quite large. Whether the number be large or small, it is none the less our duty to guard against the use of milk from tuberculous cattle for food.

It is without question most important to build sanatoria for the treatment and cure of early cases of tuberculosis; to form societies which spread information concerning the disease and its prevention to the sick and well alike; to build hospitals for hopeless and dying cases, in order to remove them from their homes at the period of greatest danger to those around them; to pass laws against promiscuous spitting; to regulate ventilation and overcrowding of tenements and factories; to encourage good living amongst the masses in every way possible. All of these things are useful and necessary, but we will still fail in doing our whole duty if we neglect to guard against food products from tuberculous animals and to make every effort for the eradication of tuberculosis from cattle.

Empyema.

De Forest Willard (*American Medicine,* May 28, 1904) says an early diagnosis of pleurisy and early operation are the prime elements in the avoidance of empyema. The general practitioner

is the one who needs to be on the alert. A test for fluid should be made with the aspirating needle—not a hypodermic, as the latter is too small and short. Liquid, if present, should be immediately withdrawn; if purulent, further operation within a day or two is advisable, as soon as the lung expands and the heart moves toward its normal position. Aspiration should be limited to diagnostic purposes, to the withdrawal of serum, and as a preliminary operation in empyema.

In all cases of pyothorax, free drainage, not aspiration, should be the rule. The larger the openings the quicker will cure be effected. Resection of ribs is imperative for exploration by the finger and for removal of fibrinous masses.

Washings are contraindicated, except in fetor, and even then more perfect drainage is indicated rather than irrigation.

In old chronic cases with contracted lung and degenerated pleura, more or less excision of the chest wall and pleura should be performed, even to the excision of the entire extent of all the ribs.

Even in tuberculous empyema benefit is derived from thorough drainage.

Postoperative Pneumonia.

The postoperative effect of ether is discussed by W. L. Chapman (*Annals of Surgery,* May, 1904), who has from his experimental studies drawn the following conclusions:

1. Prophylaxis. Care in ether-giving lessens shock and respiratory irritation, which reach their maximum when an unnecessarily large amount of ether is given.

2. The disinfection of the mouth and oropharynx by peroxide before operation is a rational precaution.

3. Adequate air space is of even greater importance in surgical wards than in medical.

4. A careful auscultation and percussion of the chest should precede every operation, and if there be signs of disease, operations of election should be postponed until the chest condition is more favorable.

5. A complete clinical record of all cases of postoperative pneumonia, together with a record of the previous stage of the patient, is most desirable, and such records will in time greatly enrich our incomplete knowledge of the factors which predispose to the complications.

6. It is possible to demonstrate experimentally the lesions

produced by suffocation and etherization, and the safe philosophy which explains postoperative pneumonitis may be applied to that which occasionally follows poisoning by carbon monoxide and illuminating gas.

The Cultivation of the Surra Trypanosome of the Philippines.

Frederick G. Novy and his associates W. J. McNeal and C. B. Hare (*Journal of the American Medical Association,* May 28, 1904) claim that the trypanosome present in the Philippine surra can be cultivated artificially. Attenuated cultures of the organism can be obtained in the case of *Tr. brucei.*

This trypanosome is differentiated by its cultural characteristics from *Tr. lewisi* and from *Tr. brucei.*

The Philippine surra is, therefore, a distinct disease, different from nagana, and this observation confirms the work of Laveran and Mesnil on the non-identity of nagana and the surra of Mauritius.

The morphologic differences between the Mauritian and Philippine trypanosomes suggest the probability that these organisms are distinct species, and hence that the term "surra" covers a group of closely allied diseases.

Arteriosclerosis.

At a recent meeting of the German Congress of Internal Medicine, Professor Maichand (*Lancet,* May 28, 1904) said that arteriosclerosis is a degenerative process, although inflammation or production of new tissue might sometimes happen. A distinction must be made between arteriosclerosis, hypertrophy of the media, and syphilitic arteries. Arteriosclerosis is caused by functional hyperexertion of the vessels and by accidental general or local causes, such as general impairment of nutrition, toxic and infectious processes, heredity, and influence of temperature. A certain form of sclerosis of the aorta, especially of the media and intima, is caused by syphilis, and in some cases gumma might develop in the walls of the aorta; this form is termed mesoaortitis productiva (Chiari). Superficial atheromatous degeneration of the intima of the aorta in youthful individuals must be regarded as a symptom of the process. The degeneration of the elastic elements produces a more or less diffuse extension of the walls

of the artery. Arteriosclerosis is not seldom associated with hypertrophy of the left ventricle as a sequel to the general increase of resistance in the circulation. The process should be termed atherosclerosis or scleroatherosis of the arteries.

Transmission of Syphilis.

Neumann (*Wiener klin. Wochenschrift,* No. 20, 1904) states that the syphilis of the mother is more intense in its action on the offspring than that of the father. Postconceptional infection of the fetus may occcur in the advanced stages of pregnancy. From his observations he finds that syphilitic children are usually from mothers free from syphilis, whilst the father will show symptoms of a recent or old infection. The syphilitic virus is therefore transmitted by means of the spermatic fluid, and must be able to infect the fetus. He also believes that ovular infection is plausible. The theory of an exclusively maternal inheritance is to be excluded.

Value of the Examination of the Cerebrospinal Fluid.

Simmeling (*Berliner klin. Wochenschrift,* No. 21, 1904) made a number of examinations of the cerebrospinal fluid in mental and nervous diseases; of these thirty-eight were paralytics. He found that in these cases a lymphocytosis was present in the early stages, and it could be used as an early diagnostic symptom. In syphilitic cerebromyelitis there was also a marked lymphocytosis; in neurosis this was absent. A decided leucocytosis points to a meningeal irritation, and with this condition there is also an increase in the amount of albumin.

Primary Intestinal Tuberculosis in Children.

William Hunter (*British Medical Journal,* May 14, 1904) says that primary tuberculosis of the intestine is rare in children under five years of age; also that tuberculosis of the mesenteric glands is rare. The results obtained amongst a native population where tuberculosis in all its forms is rife, and the conditions of life extremely favorable for the dissemination of the disease, point to the alimentary canal as a rare avenue through which infection of tuberculosis is conveyed in childhood.

THERAPEUTICS.

The Feeding and Care of Children After the First Year.

R. G. Freeman (*Archives of Pediatrics,* June, 1904) says that systematic examinations of all children under our charge should be undertaken at regular intervals, and should include the level of the shoulders and hips, the spine, eyes, ears, and throat.

During the second year a child should be fed five times a day, the diet at the beginning including only milk, gruel, and orange juice, to which later may be added an egg, soup, bread and butter, and at the end of the year meat. Beef juice should be used only as a tonic.

During the third year but three meals should be given, with an extra bottle of milk at 10 A.M.; the articles of food being continued with the addition of certain vegetables and simple desserts.

After the third year but three meals a day should be given, including the same articles of food; throughout childhood about one quart of milk should be taken daily, and the evening meal should consist only of cereal and milk and bread and butter. Both the variety and the amount of food must be carefully restricted.

Children during the second year should sleep twelve hours at night and have a morning and an afternoon nap each day, and throughout childhood should continue to sleep twelve hours at night with one nap during the day.

Provision for the exercise of children should be carefully planned: at first by the use of the nursery fence and baby jumper, later by systematic walks for short distances at a time, and still later by bicycling, horseback riding, and tramps in the country.

Throughout childhood they should be kept as much as possible out of close and crowded rooms. When in the house the room should receive ventilation from out-of-doors, and they should be kept in the absolute open air several hours each day.

Prophylaxis of Summer Diarrhea.

J. H. Mason Knox (*Maryland Medical Journal,* June, 1904) says there is no satisfactory substitute for mother's milk, particularly for the children of the poor. When artificial feeding is necessary it is important that there should be some modification of the strength and quantity of the milk suitable to the age of the infant, that indigestion may be prevented, which implies a low-

ered resistance to all infections, particularly those through the alimentary tract.

There is reason to believe that unboiled water may play a part in the spread of summer diarrheas, and it is desirable that all water given to an infant in hot weather, either with or between its feedings, be boiled.

A pure milk should be accessible at a low price to the poor of all large communities. This milk should be sterilized during the summer months.

A diet consisting exclusively of condensed milk prevents the proper development of the child and lessens its resistance to untoward influences.

Life amid unhygienic surroundings has a marked deleterious effect upon the health of an infant.

Action of Antitoxin in the Living Organism.

Wassermann and Bruck (*Deutsche med. Wochenschrift,* No. 21, 1904) injected into guinea-pigs tetanus toxin mixed with antitoxin which to other pigs proved harmless, and then at the seat of injection they caused capillary contraction by injections of adrenalin, the result being typical tetanus convulsions and death. By these experiments they showed that the toxin was taken up by the peripheral nerves and was transferred to the central nervous system by means of the axis cylinder, whilst the passage of the antitoxin to the blood was blocked; in other words, there was a separation of the toxin and the antitoxin in the organism. If the antitoxin acted on the toxin for two hours before injection, this result did not take place owing to the complete union of the two. These experiments seem to show that the antitoxin prevents the toxin from acting on account of a chemical combination of the two without a third vital agent being present.

Treatment of Acute Phosphorus Poisoning.

Plavac (*Wien. klin. Woch.,* 20, 1904) finds that the action of an antidote alone is not sufficient in cases of phosphorus poisoning; an early evacuation of the stomach and bowels is indicated. As an emetic cupric sulphate may be given, or washing out the stomach with warm water may be done until the washings are clear, when 20 liters of permanganate of potash solution 0.2 to 1000, followed by water again, is to be used. Laxatives are then given, also enemas of potassium permanganate if the

stools smell of phosphorus. Sodium bicarbonate and albumen is given internally. As no remedy will act on the absorbed poison the remaining treatment is symptomatic. There have been an exceptionally large number of phosphorus poisoning cases in Prague, over 127 having been brought to the hospital in one year.

The Coming Method of Treatment of Salpingitis.

S. J. McNamara (*Brooklyn Medical Journal,* June, 1904) says medical treatment suffices in at least one-half of the cases of salpingo-oöphoritis. Medical treatment being insufficient or contraindicated, one should never at the outset perform a radical operation of any sort. The first operative stage should always be posterior colpotomy.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Middle-ear Disease and Hepatic Abscess.

S. Maccuen Smith (*Archives of Otology,* April, 1904) reports a number of cases and summarizes the most interesting features as follows:

1. The most notable early symptom was the acute exacerbation of a chronic aural discharge, which, although usually innocuous in character in a few cases, became ichorous, and should have pointed suspiciously to a possible systemic infection.

2. The most constant and characteristic symptom was that of severe pain in the right shoulder and neck, which appeared synchronously with the beginning of hepatic suppuration.

3. The manifestation of pain and tenderness in the right hypochondrium unerringly indicated the liver as the seat of disease.

4. The repeated chills, unusually high temperature, and leaky skin demonstrated that the toxic process was septic in character and likely to prove fatal.

5. The marked accessions and remissions of temperature were typical of an acute suppurative hepatitis or multiple abscess of the liver.

6. While jaundice was a constant factor, it appeared so irreg-

ularly as to be of little diagnostic value, save in a confirmatory way.

7. The history of secondary infection in each of these cases is sufficiently clear to warrant the conclusion that a metastatic abscess of the liver or other viscera may originate from a suppurative disease of the ear.

Treatment of Certain External Diseases of the Ear by X-rays.

John Green (*Interstate Medical Journal,* June, 1904) says that in the light of our present knowledge of the radiotherapy of ocular disease the following conclusions seem to be justified:

1. In epithelioma and rodent ulcer of the eyelid, radiotherapy surpasses all other methods of treatment.

2. In selected cases of trachoma, radiotherapy offers the possibility of rapid cure. The treatment is practically painless, and the cure is effected with a minimum of deformity to the lid.

3. The method is worthy of trial in cases of vernal conjunctivitis, tuberculosis of the conjunctiva, orbital sarcoma and carcinoma, and in recurrence of glioma after operation for glioma of the retina.

4. The treatment is without danger to the function of sight.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Chorio-epithelioma.

G. Shauch (*Journal of the American Medical Association,* June 4, 1904) says that syncytiums is of fetal origin. The syncytium and the Langerhans cell are different stages of the same cell, trophoblast. The chorio-epithelioma malignum is a growth consisting of fetal cells only. As a growth, built up of epithelial cells without blood-vessels and connective tissue, it has to be placed in a class by itself.

The chorio-epithelioma of the woman is always a consequence of pregnancy; it has nothing to do with teratomas, as these are inborn growths.

The chorio-epithelial formations in teratomas of the testicle and the ovary are proving the fetal origin of the syncytium, but

are totally different from them. The chorio-epithelial masses in these tumors proceed from the ectodermal cells and are in their histogenesis equal to all other ectodermal products in teratomas, as the neuro-epithelium, etc.

The deportation of parts of villi and their epithelial layer is a physiologic fact, and probably takes place during the whole period of pregnancy.

The epithelial layer of the villus preserves its embryonal energy of proliferation until birth. Therefore a chorio-epithelioma may arise at any time of pregnancy, when the natural protective forces of the maternal organism become deficient.

Uterine Fibromyomata.

E. McDonald (*Journal of the American Medical Association*, May 21, 1904) says fibroids which are producing symptoms and all fibroids except those designated as small (especially when subserous or intramural) should be removed, because the risk to the patient from operation is far less than that from the tumors themselves. In view of the sarcomatous changes, carcinomatous associations, and complications of uterine fibromyomata, early removal is indicated when they are of sufficient size to produce symptoms. Small, uncomplicated tumors not producing symptoms do not require early treatment. Thorough pathologic examination should be made of all fibroids for evidence of malignancy. Particular study should be devoted to those tumors which are necrotic, cystic, or both, as among these are found the largest proportion of malignant changes.

Vienna Paste in the Treatment of Cervical Metritis.

D. D. Richelot (*British Gynecological Journal*, February, 1904) advocates the use of Vienna paste in inflammation of the cervical endometrium with erosion, laceration, or tumefaction of the os, and reports several cases of long standing so treated with gratifying results. From eight to ten applications at a week's interval are generally necessary to effect a cure, it being essential to destroy the superficial tissue, by sloughing, in order to reach the deeper glands affected. The application of the caustic gives little or no pain, nor did he have any cases of atresia in an experience of ten years, though a few of such have been recorded by others. When pregnancy has followed this treatment no bad effects attributable to the caustic have been noticed.

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ORIGINAL CONTRIBUTIONS.

EPILEPSY: ITS NATURE AND ITS TREATMENT.

BY GERSHOM H. HILL, M.D., DES MOINES, IOWA.

History.—Epilepsy is a disease of the nervous system which is as old as the human race. It is not restricted to civilized countries nor to people possessing a highly developed nervous system, but is known to all conditions of mankind. It was so named by the Greeks, because the patient is suddenly and unexpectedly "seized upon." He screams as if frightened, becomes unconscious, falls helplessly, struggles in a mysterious manner, froths at the mouth, becomes relaxed, breathes stertorously, and looks as if he was about to die. But in a few minutes or in a few hours he is restored to his former condition and to his usual frame of mind. He resumes his duties as though nothing had happened. It is not strange that the ancients believed that an evil spirit caused this affliction. We still say that a patient is *attacked* with pneumonia or erysipelas, or with some other acute disease. Since the manifestation of epilepsy is periodic, and since there is more or less mental derangement present, these, also insane persons, were called *lunatics*. There are still people who study the twelve signs of the zodiac and manage their affairs accordingly, hence it was not strange to suppose that the moon had some influence upon human beings to cause these fits and periodic manifestations of mental derangement. This disease is so common and so persistent that physicians everywhere have had good opportunities to study and to treat it. As yet, comparatively little progress has been made in determining the nature of epilepsy and how to cure it. The predisposing and the exciting causes of epilepsy are various and complex, but with the latest methods of the clinical study of disease, and by the coöperation and perseverance of scientific men, I believe that cases of epilepsy will be carefully classified according to causes and to patholog-

ical conditions, so that by giving judicious, discriminating, and continuous treatment to children and others during the incipient stages of the disease, epilepsy will be prevented and cured in a large proportion of cases.

Definition.—"Epilepsy is a disease of the nervous system, characterized either by frequently recurring convulsive attacks, with loss of consciousness, or by partial manifestation of these symptoms, or by psychopathic substitutes, concomitants, or results." Transient loss of consciousness without convulsive seizures is known as *petit mal;* the loss of consciousness with general convulsive seizures is known as *grand mal;* localized convulsions without loss of consciousness are known as Jacksonian epilepsy; periodic confusion of mind instead of a fit is called a psychic equivalent.

"Careful observation has shown that neither falling nor convulsion is a predominant or even dominant characteristic of the disease, common as each feature is. It has also shown that the attacks which constitute the malady present variations so great, both in degree and in character, as to baffle every attempt to frame a clinical definition. A pathological definition is that epilepsy is a recurring, sudden, brief discharge of nerve energy in some part of the cerebral cortex, not due to the normal cause of such discharge. The sudden liberation of nerve energy in the gray matter of the cerebral cortex occurs in epilepsy without the normal stimulus. . . . The function of the nervous system, and especially of the brain, depends upon the capacity for instant release of nerve energy. The instantaneous reflex action, the instant bounding away of a frightened animal for example, proves that the gray matter must hold nerve *almost* released. . . . The point for us now is that the nerve force must be ready for instant release in the gray matter. Whatever its source, it must be held in a state of most delicate equilibrium by the restraint which keeps it unreleased but ready. But this involves a conception of extreme *delicacy of adjustment* between the chemical relations—the tendency of the atoms to unite in fresh and closer combinations and release their latent energy—that is, their surplus motion—and the attraction which keeps them from so doing. It makes it easy to conceive that the slightest deviation from the normal relation between the atoms and the molecules may bring these into a position in which the equilibrium is suddenly overturned, and a quick combination and sudden release of energy occurs. We can understand that this may be from that marvelous inherited tendency which produces such precision of cor-

respondence between parent and child in the process of nutrition, or that it may be the result of acquired causes, from the sudden shock of a concussion, mental or physical, or of a cerebral lesion which has slightly, but only slightly, implicated the gray matter in a certain part of the cortex. Indeed, when we consider what the state of the nervous system must be in its natural function, we cease to wonder that many persons become epileptic without any traceable cause, and our marvel is that all persons are not liable to such fits.

"But another equally important fact must be recognized. The liberation of nervous energy involves the escape of some atoms of the nerve tissue, which are at once replaced from the plasma adjacent to them under the mysterious *nutritional influence* of life. The rearrangement is the same, and yet not quite the same. It differs in just the degree and character to make the same release of nerve energy more easy. Every action paves the way for its own recurrence. The effect is greater the more frequent its occurrence. This is the secret of the acquisition of skill; it constitutes the physical basis of memory; it is this which facilitates the repetition of a given morbid process, and this causes the recurrence of discharge which makes epilepsy a persistent disease. The recurrence of attacks is one great feature of the previous attacks. Every fit is in part at least the result of epilepsy, and the recurrence is in great measure the result of those which have preceded it, and in part a cause of those which follow it. Hence the immediate cause of the first fit must be regarded as the cause of the disease, although the essential cause is the disposition—that is, the state of nutrition which makes such discharge possible. When equilibrium is unstable, a trifling influence may overturn the balance, and cause an effect quite out of proportion to the apparent cause. The degree of instability may, of course, vary; and when it is not great the first attack may have been due to some cause of considerable power. Even then, however, we must ascribe the special effect to the special predisposition." Epilepsy is a habit.

"It is not customary to include under the term 'epilepsy' active progressive brain disease, such as tumor, even though it cause epileptiform convulsions. But there is a large class of cases in which an old spot of disease induces such discharges, which may be slight or local at first, but spreading when more intense, and ultimately leaving a general disposition which may be hardly distinguishable from idiopathic epilepsy. Although these cases are quite distinct in primary causation, they are not practically separable from those of idiopathic epilepsy."

Causes.—Epilepsy and insanity certainly run together in families. The child of an epileptic parent may become insane, and *vice versa*. Both diseases tend toward degeneracy and the extinction of the individual and of the disease. One-third of the cases of epilepsy are chargeable to heredity.

"Age has a great influence on the production of epilepsy. This may, indeed, be expected from the tendency to spasm and convulsion which is conspicuous in childhood, which lessens as the stability of full development is achieved, and is again increased during the change with which the period of childhood ends. The periods of this change, and of the first three years of life, are those in which epilepsy most frequently commences. In the second decade, indeed, the malady commences as a continuous disease in no less than half the cases, in the first decade in more than a quarter; thus three-quarters of the cases of epilepsy begin before twenty years of age. The third decade is responsible for a sixth, leaving only one-twelfth to commence after thirty years of age. But the persistently recurring fits may begin as late as seventy years of age. Yet only one case in 200 commences after sixty.

"Injury in or near the motor cortex may lead to recurring convulsions; but these begin in particular parts which correspond to the position of the lesion. These cases are rare. In some cases, however, general convulsions, like those of idiopathic epilepsy, follow some more general concussion which has possibly a wide-spread influence on nutrition. Yet it must be remembered that injury involves a mental as well as a physical shock, and mental shock, as will be seen, is a potent cause of epilepsy."

Toxic influences are occasionally met with in this disease. "A first fit may occur during or immediately after scarlet fever. In rare cases some other toxic state of the blood, like that of alcohol, is the apparent cause. In obtaining the history of cases we learn that occasionally the first fit was preceded by fright. In many instances the cause of the alarm seems absurdly inadequate; but that which seems inadequate at first sight may not seem so on further consideration. Mere minuteness of excitant becomes unimportant if it acts like the spark in an explosion of gunpowder; and it must always be kept in mind that the essential cause is the internal predisposition."

One sex is about as like to have fits as the other.

In discussing the etiology of epilepsy two years ago Dr. Frederick Peterson said: "It is in the domain of causes that

we must now do our best work. We have already arrived at certain valuable conclusions. We know that heredity plays a large part in the etiology of epilepsy. There is, perhaps, no disease in which the workings of heredity are more striking. Epilepsy is one of the equivalents in polymorphic heredity. By this we imply that when the nervous mechanism governing the normal evolution of both body and mind is disarranged, the result is a condition of nervous instability which manifests itself in the descendants in some one of many forms. The result may be epilepsy, chorea, neurasthenia, hysteria, somnambulism, migraine, feeble-mindedness, idiocy, insanity, inebriety, criminal tendencies, or simple eccentricity. These are called hereditary equivalents, and any of them may appear in a neurotic family from generation to generation. They are all interchangeable manifestations of an unstable nervous system. Hence, in an inquiry into the history of a case of epilepsy, it is not enough to seek for other examples of epilepsy, but we must look for all the above mentioned phases of a morbid heredity."

Injury to the head occurring at birth, in childhood, or in later life, is, I am convinced, a not infrequent cause of epilepsy. Among other causes may be mentioned infectious diseases acting on the parents or on the patients themselves, frights or other emotional shocks either to the pregnant mother or the child, and a variety of obscure toxic conditions. Another reputed factor is what is known as a reflex cause—that is, convulsions brought about by irritation of peripheral nerves, such as disorders affecting the visceral nerves in the pelvis, the nerves of the gastro-intestinal tract, the nerves of the nose and of the ear, the nerves associated with the eye, etc. This so-called reflex type is undoubtedly the rarest form of epilepsy known. Among several thousand cases observed by Peterson, he found no case of epilepsy due to a reflex factor, although he had made it a point invariably to seek for such a cause. But I regret to say that there are certain surgeons who, through ignorance or dishonesty, profit greatly in their practice by pelvic operations, by operations upon the ear or nose, and by cutting the eye-muscles in cases of epilepsy, inveigling these sufferers into the hope of cure through such means. Yet no case of genuine epilepsy was ever cured by their method.

Pathology.—Although epilepsy has for a long time been considered as a nervous disease, and that its location was in the brain rather than in any of the peripheral nerves, yet no definite conclusion has heretofore been reached as to the part of the brain

which is affected. Since the disease is characterized by such a variety of possible causes and by such a variety of symptoms and by such a difference in the extent to which the patient is permanently injured by the disease, the greatest perplexity has been experienced by physicians who have studied this disease from a clinical standpoint. Since, however, unconsciousness is considered as an indispensable symptom in this disease, and since the mental faculties are more or less impaired in chronic cases, it is evident that the organ which is the seat of the mind is also the part which is affected in epilepsy. The base of the brain, and perhaps the floor of the fourth ventricle, were for a time considered as the probable places to look for disease. But Gowers, Peterson, and other good authorities agree in the opinion that "the seat of the disease is in the gray matter on the surface of the brain—the cortex. We have been able to limit its position in the organism to this extent. We understand these recurrent seizures to be a kind of explosion in the great nerve cells of the gray matter. It is not an organic disease, but what we call a functional disorder, a neurosis."

Symptoms.—No two cases of epilepsy are alike. The same case varies from time to time, according to bodily conditions and as affected by environment. A severe epileptic fit has always been the recognized type of disorder, and the symptoms observed in such a case are the ones which the text-books usually describe. I will not undertake to go into details about hard fits. A few patients are conscious of some unusual symptom which tells them that an attack is impending, and yet the aura or the peculiar mental irritability or a tremor or a sudden jerking sensation in some muscle is of no practical value as a notice to the patient that he is about to have a spasm, so that by taking some remedy which is at hand, or by the judicious management of himself, he can prevent the attack. A sudden abnormal mental state may constitute the first symptom and may leave a definite impression upon the memory. The brain processes which attend mental states may leave a residual effect which permits subsequent revival. That which precedes an epileptic fit may be called an emotion, or an idea. It is almost always some form of fear. There is no definite distinction between *grand mal* and *petit mal.* Spasm may occur and yet be unseen; a slight visible tonic spasm may easily raise a doubt as to which class the attack should be placed in.

In the proper nomenclature various names are given to these attacks, according to their chief characteristic. The patient may

say that he has had no fit at all; it was only a fainting spell. There is a disposition to underestimate the import of *petit mal,* namely, the epileptic attacks which are not accompanied by spasmodic conditions and long periods of unconsciousness. Patients and friends often conceal the nature of these attacks, not realizing, perhaps, that they indicate a disease as serious and as difficult to cure as any other form of epilepsy. The forms of minor attacks are so various as to baffle classification and preclude full description. The typical attack is a momentary loss of consciousness, causing a momentary cessation of conversation; often a vacant look or the dropping of anything from the hand, and occasionally a fall. Of such loss of consciousness a patient may be wholly unaware, so sudden is its onset and ending. He may go on with the sentence he was uttering, and be astonished to observe that those about him are looking at him with concern. Vertigo is a frequent momentary symptom of the minor attacks. It may be various in character, subjective or objective, but is of great importance on account of its frequency, and in that it is seldom associated with severer attacks in the same person. Indeed, this is true of all varieties of minor epilepsy, and makes it necessary to put leading questions to ascertain their occurrence.

After a severe attack of epilepsy, convulsive in character, the patient lies exhausted and prostrated, a deep sleep follows, and if the patient be prematurely aroused there is likely to be a severe headache. In many cases there is little sleep, but much headache. After an epileptic fit has been recovered from to a considerable extent, a peculiar state of automatic action may be observed in some cases. The simplest form is that in which a person goes on with some work in which he was engaged at the time and with every manifestation of consciousness, yet after suddenly recovering himself he cannot remember what has occurred. In this condition of mind disorderly conduct may be indulged in, and the patient be controlled with difficulty. Under such circumstances homicidal acts are committed by epileptics, who are most of the time possessed of their right mind and regarded by their acquaintances as competent to do business, and as wholly responsible for their conduct. This condition of brief insanity, the sequel of an attack of epilepsy, is pathologically related to another peculiar condition which may be termed hysteria. Such a state may last for a few minutes or a few hours. It may even be mistaken for the condition called "status epilepticus." The patient acts as though he were trying to break all records by having repeated and continuous fits, presumably for the entertainment of persons who are anxiously giving attention to the case.

The facts of epilepsy show it to be a self-perpetuating disease, and maintained and increased by a sort of habit developed in the brain. Thus the natural tendency is for attacks to become more frequent or more severe. Severe attacks occur at intervals which vary from a few days to a year or even more. In the majority of cases the interval is between a week and a month. In many patients the fits occur in groups; from two or three to ten or more may occur in a period of a few days, and then no more for weeks, or even months. Many sufferers from the disease are naturally weak-minded, but persistent mental feebleness may be the result rather than the concomitant of the disease. The most important practical fact connected with mental feebleness is the frequency with which it is manifested when the attacks of epilepsy which have been going on for a long time cease altogether.

Diagnosis.—The diagnosis in *grand mal* is easily made. The suddenness of the attack, the complete loss of consciousness, the tonic followed by the clonic spasm, and relaxation of the sphincters, are pathognomonic. Hysterical people in their teens may simulate this disease, but such efforts are soon recognized. A knowledge of the quality of the urine and the condition of the kidneys is only necessary to enable the physician to diagnosticate the convulsions, which are due to uremic poisoning.

Epileptic fits are sometimes feigned by the inmates of workhouses and of jails, but there is usually an apparent motive for simulating this disease; the dilating pupils which are characteristic of epileptic fits are absent, also other symptoms which enable a physician who is at all familiar with epileptic seizures to recognize the difference.

Petit mal is to be differentiated from syncope and vertigo. Jacksonian epilepsy is usually symptomatic of gross brain disease which is revealed by other indications. The prognosis is unfavorable in congenital cases and in cases which have continued several years. Patients seldom die in or immediately after a convulsion, unless by accident, such as drowning, smothering in the pillow in bed while unconscious, choking with food which was in the mouth when the fit began.

Prognosis.—It seems to be of small import from what form of the disease the afflicted individual suffers, whether it be *petit, grand,* or Jacksonian epilepsy; all, sooner or later, show deterioration of the intellect or the periodic occurrence of the graver forms of insanity. Nevertheless, it may be stated as a general rule that the earlier the disease shows itself the greater the

liability to mental deterioration and the more rapid the decadence; while in those persons in whom the disease began in the later years of life, the deterioration process is much slower. The prognosis of epilepsy is a question of therapeutics. The recovery from the disease is freedom from fits without treatment, yet in no disease does treatment enter into the prognosis to the same extent or in the same degree. When every kind of attack is prevented a patient is only on the road to a cure. As long as the slightest seizures occur, severe attacks would certainly occur were the patient to leave off taking the medicine which has arrested them.

The shorter the duration of the disease, and the less frequent the attacks, the brighter is the prospect of their permanent arrest. It must be remembered, however, that the less frequent the attacks the longer has treatment to be maintained before its influence can be seen, and therefore the more difficult is it to secure perseverance. The prognosis is better if attacks occur only in the night, than if they occur only in the day, or in both sleeping and waking states. It is better in idiopathic epilepsy than in the form which is the result of some old cerebral lesion.

The most unfavorable feature is the occurrence of minor attacks. These are often not influenced in the least by the treatment which stops the severe ones—indeed, they may become more frequent. So long as they continue, if medicine is stopped severe attacks will soon recur. Hence the extreme importance of their recognition by the indications mentioned in the preceding section.

But treatment may produce a state which, however far short of a cure it may be, often involves a vast difference to the subject of the disease. The ability to work, the capacity to enjoy life, may be regained, and as a consequence the relief of the friends from the pressing anxiety that is involved in the frequent occurrence of a fit. By treatment epilepsy is sometimes cured, but life is often transformed; and how precious this imperfect result frequently is can only be discerned by those who have witnessed the gratitude it evokes.

14. And when they were come to the multitude, there came to him a certain man, kneeling down to him, and saying,

15. Lord, have mercy on my son; for he is a lunatic, and sore vexed: for ofttimes he falleth into the fire, and oft into the water.

16. And I brought him to thy disciples, and they could not cure him.

17. Then Jesus answered and said, O faithless and perverse generation, how long shall I be with you? how long shall I suffer you? Bring him hither to me.

18. And Jesus rebuked the devil: and he departed out of him: and the child was cured from that very hour.

19. Then came the disciples to Jesus apart, and said, Why could not we cast him out?

20. And Jesus said unto them, Because of your unbelief: for verily I say unto you, If ye have faith as a grain of mustard seed, ye shall say unto this mountain, Remove hence to yonder place; and it shall remove: and nothing shall be impossible unto you.

21. Howbeit this kind goeth not out but by prayer and fasting.

Treatment.—The tendency to the recurrence of convulsions, which constitutes the disease we call "epilepsy," can only be influenced by the administration of drugs—that is, by bringing certain chemical substances into artificial relation with the nerve elements concerned in the disease. Action is due to chemical union; instability to too ready union; stability is due to some unknown mode or restraint of the tendency on the part of the atoms of the nerve elements to unite with the oxygen brought to them in the plasma with which the structures are bathed. From this comes the molecules, which they appropriate for the maintenance of their nutrition and of their capacity for action.

Mysterious as is the process, its control is not less so. The influence of the alkaline bromides, of potassium, sodium, and ammonium, is the most remarkable and definite therapeutical discovery of the last half-century, and it was purely empirical. It is within the experience of every student that if a person who is having a severe epileptic fit every week begins taking a drachm of bromide every day he may not have a single fit for a year to come. Yet during that time there may have been no apparent perversion whatever of the normal action of the brain.

The three alkaline bromides present little difference in the influence they exert. Whichever bromide be employed, it must be given continuously—that is, the influence must be maintained without interruption. It is necessary to continue the regular administration of it for two years after the occurrence of the last attack of any kind, and then to spend another year in gradually diminishing the dose. Not until the end of the third year is it reasonably safe to omit the medicine altogether. This precaution applies to every method of treatment; there is no short method of cure. But the temptation to leave off the medicine is very great when the attacks have ceased; it is then that the prospect of a cure makes persistence of the greatest importance. The duty of perseverance must be enforced upon the patient or his friends. Moreover, it is necessary to arrest all attacks, the slight as well as the severe; so long as minor attacks occur it is practically certain that a severe attack will soon follow the discontinuance of the treatment.

The bromide may be given once, twice, or three times a day.

according to the frequency of the attacks. A single dose will generally suffice if the interval between them is one of several months; but if it be less than two months, two doses should be given. There is little difference in effect between two doses and three doses a day, provided the amount of bromide administered is the same. Two doses of 30 grains have generally the same effect as three doses of 20 grains. A single dose may be given either at bedtime or after breakfast, according as the attack occurs in the night or in the day.

The object is to arrest the attacks, and also to afford a margin of stability sufficient to resist an occasional exciting cause. On the other hand, it is important that the dose given regularly should not be larger than is necessary to achieve this object. In many cases that which is necessary and not excessive can only be ascertained by experience in the individual case. But the largest daily quantity which, as a rule, can be continuously borne with impunity is 90 grains, half a drachm three times a day; and for many, perhaps for most patients, this quantity is too large. The ordinary maximum may be put at 60 grains a day; curable cases do not need more.

The system of increasing the dose when an attack is supposed to be impending is not to be commended. If such an increase be really necessary the constant dose is insufficient. Most persons can bear 60 grains of bromide daily for years without the slightest interference with the functions of the nervous system.

The only preventive of the bromide rash is arsenic, in the proportion of five minims of Fowler's solution to each scruple of bromide.

In general terms it must be said that, although various kinds of surgical operations have been made upon the arteries, on the sympathetic nerves, and on the skull for the relief of irritation or of pressure on the brain, the results of such work are not flattering. Trephining has seldom proved of permanent advantage, consequently the operation is not resorted to as much nowadays as it was years ago.

The diet of the epileptic should be plain and nutritious, but simple and easily digestible. A limited amount of meat may be taken for breakfast or for dinner, but not at supper-time. Supper should be eaten a few hours before the patient retires. Food should be eaten slowly, and only a moderate amount taken at any one meal. The bowels should be thoroughly emptied daily. It is unwise to permit even one day to pass without an operation. A mild laxative can be used to insure this result.

The life of an epileptic should be as uniform as possible—regular meals, regular employment of a suitable character. The patient should not be permitted to overwork or be subjected to experiences which are exciting or irritating in their character. The education of children may go on without injury and even with advantage if all strain be excluded, and it be remembered that the excitement of the playground may be more harmful than the mental work of the schoolroom. The realization by the patient that he has a disease which is difficult to cure is sufficiently depressing to his mind, therefore his attention should be occupied with employment which is natural and cheerful in character, so far as practicable.

At the meeting of this society in Burlington ten years ago the following resolution was unanimously adopted: "That in our opinion it is desirable for the State to establish and maintain a hospital for the care and treatment of epileptics, consisting of a system of cottages for the accommodation of both sexes; for children as well as adults; for the sane as well as for the insane; for the cure of cases where complete and permanent restoration is possible; for the education of those susceptible of it; for furnishing occupation, amusement, and an isolated home for all sorts of persons afflicted with epilepsy."

At a recent meeting of the Muscatine Medical Society action was also taken to attempt to secure from the next legislature an appropriation with which to establish and maintain an institution which shall have for its object the care and treatment of the Iowa people who are epileptics. The superintendent of the institution for feeble-minded children and the several superintendents of the State hospitals in Iowa have for many years, whenever opportunity presented, used their influence in favor of an institution in Iowa, supported by the State, for the exclusive care and treatment of epileptics.

Special provision has been made for epileptics in Ohio, New York, Massachusetts, Pennsylvania, New Jersey, Texas, and elsewhere in the United States. It is generally believed that a separate, well adapted institution affords the most comfort and happiness, the best chances for improvement and recovery, not to speak of educational privileges for the young, and suitable employment for all kinds of epileptics. Ohio was the first State in America to establish a hospital for epileptics supported by the State. In April, 1890, the legislature authorized the construction of a hospital for epileptics. It cost $40,000, and was occupied by 250 patients in 1893. Now there are more than a thousand

patients in this institution. It will be noticed that in Ohio the provision seems to be made for epileptics who require custodial care and are much in need of medical treatment, many of whom no doubt are insane.

The Craig Colony for Epileptics was instituted in New York in 1896, and has proved a grand success; but this institution, unlike the one in Ohio, is for epileptics who are not insane and who are not invalids to any considerable extent at the time of admission into the institution. It is estimated that fully twenty per cent of the epileptics who are healthy and sane at the time of their admission into the institution, in the course of four or five years will require custodial care, which, of course, is much more expensive and burdensome than to provide for epileptics who are able to do some kind of work. The New York institution is located upon a large farm. Dr. Peterson, the president of the Board of Trustees of that institution, says: "There is but one kind of an institution which can meet the case of those who suffer with epilepsy. No asylum, no large hospital, no single vast building in a great city, is appropriate for the purpose. It must be an establishment combining many unusual features. It must have schools and teachers for the young epileptic. It must have offices, shops of all kinds, stores, dairy, farm, gardens, granaries, for as they grow up these patients should acquire trades or professions. It must have a group of small hospitals and asylum buildings, where such as are sick or mentally infirm may be cared for. It must have skilled physicians. It must have a church, amusement hall, gymnasium, and bathing establishment. It must have, finally, a pathological laboratory, presided over by the keenest pathologist obtainable, so that in the course of time a cause and cure may be discovered for this terrible disease. Such a place would not be a hospital in the ordinary sense of the term; it would be a village in itself, a colony for epileptics."

Dr. Spratling, who is superintendent of this New York institution, says in a paper which he furnished to the Quarterly Conference of Iowa Superintendents, held in the rooms of the Board of Control four years ago, that the site for a colony for epileptics should be located on a large farm. It has been determined that the patients who work out-of-doors improve in far greater ratio than those who work indoors, and that agricultural work is the very best kind of employment which can be given to epileptics. The size of the tract of land to be secured should be large enough to provide, on an average, an acre for one person. This land will include all that is to be used, on which houses are to be put up,

land for agricultural purposes, lawns, gardens, pasture, roads, and walks. It is especially desirable that the tract furnish suitable sites for various buildings, located upon different parts of the farm, and that the land be as easily cultivated and as productive as possible. The epileptic should be able to produce by his own labor as much as possible of the food supplies he will require to consume, and when we remember that it is to his interest to eat largely of cereals, breadstuffs, fruit, milk, eggs, etc., we will understand the value of having good farm land to begin with. The land should be well watered, and accessible to the railroads. It is desirable to so locate an institution as to obtain fuel at a minimum price. The colony should be isolated from large cities, and so situated that the inmates of the institution may roam about in the neighborhood without getting into trouble or being regarded as nuisances. This institution for epileptics should be separate and distinct from any other institution for unfortunates.

epileptics should be separate and distinct from any other institutions in Iowa should recommend the next legislature to appropriate one hundred thousand dollars, to be available during the next two years, for the purchase of 2000 acres of land, all in one tract, located somewhere near the center of the State. On account of the cheapness of fuel it would seem that either Boone or Mahaska county would be a most desirable place for the Iowa colony for epileptics.

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SUPERSTITIONS—MEDICAL AND OTHERWISE.

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The present is undoubtedly the most progressive and enlightened period in the history of the world, medical and other sciences having attained a greater degree of perfection, and general knowledge and education having become more widely disseminated, than ever before realized; yet there still exist many of the superstitious ideas of olden times, when ignorance was the most prominent attribute, and superstition the dominating influence of the human race. Despite abundant opportunity for adequate educa-

tion and enlightenment in the various ramifications of science, the arts, and commerce, there still remain people who live in a state of comparative barbarism, whose superstitious ideas find credence even among those of education and refinement.

In the preservation and dissemination of superstitions, medical and otherwise, heredity appears to be an important factor. And physicians, because of intimate association with all varieties of the *genus homo,* having greater opportunities for study and observation in this particular field than the devotees of any other profession, are able to relate many interesting, quaint, and ridiculous ideas gathered from the superstitious among their *clientele* and elsewhere.

The fallacies and superstitions current in different countries and in different races of people vary more or less, though all have much in common. Perhaps in no race do there exist more absurd superstitions than among the negroes—*e.g.,* they believe that by some unknown influence they may be conjured (whatever that may mean to them), and unless the "hoodoo" is removed by the conjuring person they will pine away and die. And it may be said that beliefs similar to this are also current among numerous other races of people.

While practically it would appear that superstitions should exist only among the most ignorant, those whose opportunities for education and enlightenment have been limited, there is abundant evidence to prove that at least an enormous amount of credulity is diffused in the minds of all classes, non-educated and enlightened alike. "In the opinion of the—ignorant—multitude, witches and impostors have always held a competition with physicians" (Bacon).

It is well recognized that even the materia medica is subject to almost constant change, new remedies rapidly taking the place of those of more remote origin, partly the result of "fad" or fashion in prescribing, and partly from demand because of emergencies which arise from inconsistencies and variations in the diseases which the physician is called upon to treat. Fashion has its votaries in medicine as well as elsewhere.

It is said that Queen Anne was the subject of hypochondriacal attacks which her physicians diagnosticated "spleen vapors," and prescribed therefor certain confections and pearl cordial. And soon after a noted work on nervous disorders and dyspepsia appeared in print the whole fashionable world became dyspeptic.

In the history of early society it is stated that women were the physicians. While men fought and hunted, women gathered

herbs and concocted or decocted salves for their wounds. Older women were selected as possessing superior skill for the profession. The wise woman with her kettle, cooking her mysterious broth, adding ingredient after ingredient, inspired not only hope but fear. Roman matrons were accused and even convicted of poisoning by their decoctions. It was carried on to such an extent that the name of "poison maker" was given to those who prepared the "magic medicine."

The "medicine man" of the North American Indians is a familiar character in history, and his superstitions and vagaries are too well known to require comment. He claims to cure disease and injury of every nature whatsoever by invoking assistance from supernatural agencies, supplemented by incantations and ceremonies, the invention of his own imagination, and herbal remedies of his own manufacture.

According to Livingstone, the African priest and medical man is one and the same, and makes the clouds give out rain by the following:

℞ Charcoal, made of burned bats.
A lion's heart.
A calculus from a cow's stomach.
A serpent's skin and vertebræ.
Herbs, q. s.

This is made into an infusion, the vapor of which rises and causes rain.

In China epidemic frenzies are said to be common, the most conspicuous recent instance being the terror created by the supposed supernatural clipping of queues. Sorcerers scattered charmed bits of paper representing men, which were the means of disseminating evil spirits throughout the community. When one of these spirits entered a household he proceeded to clip the queues of the inmates, and the sorcerer on retaining possession of this could evoke at will the soul of its owner, which he was able thereafter to use as a servile demon; while the man died from the loss of his spirit. The only cure for the sufferer was to cut off an inch or two more of his hair and keep it for eighty days soaking in a cesspool, thus severing the mysterious connection between his head and the portion of hair in possession of the sorcerer; but for prevention reliance was placed on amulets and charms. And the Governor of Kiangsee issued a proclamation, with a charm of his own invention, to be placed over the doors of dwellings or to be worn as an amulet. He further recom-

mended an anathema, attributed to Tas Tsze, the founder of Tavism, which was to be chanted while being copied on yellow paper with the blood of a cock mixed with vermillion, the paper being then burned and the ashes swallowed. There was scarcely an individual who did not wear an amulet on cap or sleeve.

Among all the nations and people of the earth cats have apparently been the objects of superstition from the earliest ages. In Egypt they were held in the highest reverence; temples were erected in their honor; sacrifices and devotions were offered to them; and it was customary for a family in which a cat had died to shave the eyebrows.

In the middle ages cats were regarded as the familiars of witches. The favorite shape of Satan was said to be that of a black cat, and the animal was an object of dread instead of veneration. There was a belief among sailors that the frolics of a cat at sea portended a storm. People still prophesy rainy weather from a cat washing its face; and a cat on the housetop was held to signify death. The foolish belief that a cat has nine lives has sometimes led to perpetration of great cruelty to this harmless and useful domestic animal.

Fallacies and superstitions relating to snakes are exceedingly common. These reptiles, by their graceful and sinuous movements and the terror of their bite, appear at once to command reverence and awe. The worship of the tree and the serpent was a cult of the aborigines of India; and evidences of ophiolatry have appeared in other parts of the world. Stories are still extant of an exchange of form between human beings and snakes, and many interesting examples of this strange phenomenon have been cited from time to time. Another common belief is to the effect that if one kills the first snake met with in the spring, no others will be observed during the remainder of the year.

In Swabia tales are still told of home snakes, which appear to bring good luck and which must under no circumstances be killed. These snakes are said to come to the children and sip milk with them out of their bowls. And many tales are related of black snakes found in pastures, where they suckle cows, and that the animals daily resort to certain localities where these reptiles abound in order to secure relief from a painful abundance of milk. Some of the house and farm snakes are said to have crowns, and are therefore designated by the name of "king snakes."

Another fallacy is the supposed existence of the hoop-snake,

which is reported as being capable of grasping the tip of its tail with its mouth, and like a hoop rolling swiftly along in pursuit of an unwelcome intruder. This snake is believed to have upon its tail a short poisonous horn, and should it strike any living creature with this instant death would be produced.

There are many curious superstitions extant in reference to the rattlesnake. Its rattle if tied to a string and suspended from the neck of an infant will serve to prevent convulsions; if carried in the pocket of an adult it will guard against rheumatism. Rattlesnake oil is employed as a remedy for deafness; and the diluted venom mixed with bread and made into pills has been administered internally for the cure of rheumatism.

Equally remarkable are the stories current in regard to marvelous cures of snake-bite and the bite of supposedly rabid animals by application of so-called madstones. There are many such stones in existence, the value of which is said to represent many thousands of dollars, in proportion to their supposed efficacy. As an illustration of the esteem in which these substances are held, it is stated that not many years ago a celebrated madstone (which was found in the stomach of a deer) was sold to a Texas druggist for two hundred and fifty dollars.

Reports of miraculous cures of so-called hydrophobia by the application of madstones, purporting to emanate from reputable physicians and others, are familiar to every one; but investigation shows the origin of such stories to be exceedingly questionable, and the statements are usually nothing more than fallacies or prevarications. As a matter of fact, the investigations of Stockwell and other reliable observers seem to have proven that hydrophobia itself is but a myth, the statements and evidence of others to the contrary notwithstanding.

"Mother's friend" (an ointment) rubbed daily over the abdomen of a pregnant woman is believed to insure an easy and uncomplicated delivery.

As a pretty child is always desired, the mother is urged to look only at beautiful objects of art, etc., during her gestation. Many well educated women have been known to invest in beautiful paintings and statuary and spend hours each day in contemplation thereof.

The prospective mother is advised to study higher mathematics and the sciences, that her child may possess extraordinary intelligence.

The position assumed at the beginning of labor, or during the latter part of the gestation, is believed to have an influence

upon the child; if the mother extends her arms above her head, she is at once told to lower them, as such position will knot the funis around the baby's neck and produce its death.

Some women believe chloroform should not be taken to alleviate the pain of parturition, because it is flying in the face of Providence: "I will greatly multiply thy sorrow and thy conception; in sorrow thou shalt bring forth children."

That the child may possess a lovable disposition, the mother must under no circumstances get angry or quarrel during her pregnancy; indeed her mind must dwell only upon pleasant and agreeable occurrences.

If the child is a male, the length of the penis at maturity is believed to be influenced by the length the funis is cut at birth.

The after-birth must be burned, in order to avoid the occurrence of after-pains.

To facilitate removal of the placenta, the patient is told to blow into a bottle, or to take snuff; or to hold a little salt in the left hand, double up the right hand into a funnel shape and blow through it.

To prevent postpartum hemorrhage, the mother must take a "bite" of the placenta as soon as it has been delivered.

The obstetric superstition which has cost more lives than all the others combined is the fancied superiority of the old comforter as an absorbent of the liquor amnii, blood, urine, etc. The older, dirtier, and more often it has been used the more highly is it prized.

Instead of the baby being given mother's milk, immediately after it is born it is given a piece of fat bacon, a sugar teat, whiskey and water, or some variety of tea.

The baby's finger-nails are first to be bitten off, for if they are cut the child will surely be a thief. Do not cut the finger-nails until they are one year old, or it will make the child steal.

The aperture through the compress applied to the funis must be burned through and not cut, otherwise the cord will suppurate.

The obstetrician is usually requested to examine the placenta and inform the mother whether or not she will bear further children.

The baby's eyes are washed with milk immediately after birth. This is a time-honored procedure and must under no pretext be omitted.

The husband of the pregnant woman is supposed to often suffer from "morning sickness," and is commiserated thereat.

Children are not infrequently weaned by the phases of the

moon, as otherwise they are apt to suffer with the various gastro-intestinal disorders which are so common in that period.

If a child is puny and of low vitality, bore a hole in a young tree, at exactly the height of the child; drive a plug into this hole, along with some hairs of the child's head. The belief is that as the tree continues to grow, so will the child.

Parturition or conception, as well as the catamenial flow, is often believed to be determined by the moon's phases.

For the cure of rheumatism, carry a horse chestnut, a potato, or a piece of sulphur in the pocket; or wear one of the famed so-called "rheumatic rings."

If the moon is allowed to shine on the face while asleep, the individual will certainly go crazy.

Wear a string of gold beads around the neck for the cure of goitre. (2) Rub in oil from a lamp, especially from one that has been burned by a death-bed. (3) Rub the goitre over three times with the hand of a dead person.

Amber beads worn suspended from the neck will cure sore throat, sore eyes, sore ears, etc.

Bands of red flannel worn around the neck will cure tonsillitis and other forms of sore throat. (2) An old stocking taken immediately from the foot, while it is saturated with perspiration, will answer the same purpose.

A carrot suspended in the room of a person suffering from jaundice is regarded as an infallible remedy. (2) Drink water in which a gold piece has been kept twenty-four hours, and shave the nose with a razor until the blood comes.

Warts may be removed by rubbing upon them a piece of meat, which is then buried; they may also be transferred to another by rubbing upon them a piece of bone, and putting this upon the spot where found. Whoever picks up the bone will have the warts transferred to his own hands. (2) Prick the wart with a pin; stick the pin through a bean leaf, then bury the leaf. (3) Between two flat rocks place three buds of mullein, and rub until well bruised; take the bruised mullein and rub the wart, and then put in a dry place. (4) Rub the wart with a snail until the snail has been crushed; take the remaining crushed portion, stick a pin through it, and hang it in such a place that the sun will shine upon it when it sets. (5) Rub the warts with milkweed; then give the patient a rusty nail, and turn your back when he throws it at you; and leave without looking back. Bury the milkweed, and when it rots the warts are gone. (6) Rub the wart with a potato and feed the potato to a pig. (7) Rub the wart with a

butter-bean, then bury the bean, and when it rots the wart is gone. (8) Close your eyes, and get a beautiful young lady to wet the wart with her saliva and rub it well.

A sovereign remedy in pneumonia, pleurisy, and pulmonary tuberculosis is to spread the skin of a freshly slaughtered black cat, flesh side downward, over the patient's chest; this is to remain until the cat-skin becomes dry, when the disease will have vanished. (2) A poultice of fresh cowdung is also an excellent remedy—in fact it is good wherever a poultice is demanded; it has even been recommended to be applied over the epigastrium in the pernicious vomiting of pregnancy, etc.

For thrush: (1) Get up soon in the morning; do not speak a word to any one until you have found nine sow-bugs; put them into a poke; tie this around the child's neck. (2) Get some one whose name has not been changed by marriage to blow her breath into the child's mouth.

For the cure of congested and enlarged liver (liver-grown) pass the child rapidly through a horse-collar, and then underneath the round of a chair; grease it with marrow of a jaw-bone, and put it to bed. (2) Take the child up gently, turn your back toward the north, and then swing the child slowly toward the west, south, and east three times, in the name of the Father, Son, and Holy Ghost.

An excellent remedy for herpes zoster (shingles) is to rub the part affected with blood from the tail of a black cat.

Burns: (1) Get a man who is the seventh son to blow his breath upon the burn. (2) Blow your breath on the place burned, and say, "Fire, loose yourself, as Judas lost his color the night on which he betrayed our Savior."

Wens: Look at the moon; pick up a bone, with which rub the wen and repeat the following: "What I look at increase, and what I rub decrease."

Toothache: (1) Get a splinter from a tree that has been struck by lightning; pick the tooth until you get blood upon the splinter, then bury it under the drip of a house. (2) Repeat the following: "Toothache, I bid thee come out of the marrow into the bone, out of the bone into the blood, out of the blood into the flesh, out of the flesh into the skin, out of the skin into the ground twenty-seven furlongs deep." (3) Trim your finger-nails on Friday. (4) Eat bread which a mouse has nibbled, or bury a tooth in the hole of a mouse. (5) Carry in the pocket a tooth from a soldier killed in battle, or from a murdered man. (6)

Kiss a mule. (7) Rub the gums with the body of an ant, bee, or fly, or prick them with a sharp twig from a sweet apple-tree.

Headache: Bore a hole in a tree, put into it a lock of your hair, and then plug up the hole.

Rupture: Eat one dozen eggs that were laid on Thursday before Easter.

Leprosy: Slay an innocent child or virgin, collect the blood, and apply freely over the patient.

Epilepsy: (1) Collect the blood from an executed criminal and apply to the patient. (2) Wear a thick silver ring on the finger, preferably one made from a coffin-nail. (3) In case of a "fit" open the clothing and scratch a cross on the breast with a needle, so that the blood comes, and lay a black cloth over the mouth. (4) When one feels an attack of epilepsy coming on, he should look in a mirror, or smell of a bug of some sort. (5) Milk from a cow, blood from a weasel, a pregnant ass, seven drops of blood from the tail of a cat, are also excellent remedies.

Hemorrhage: (1) Repeat the sixth verse in the sixteenth chapter of Ezekiel, thus, "And when I passed by thee and saw thee polluted in thine own blood, I said unto thee when thou wast in thy blood, Live; yea, I said unto thee when thou wast in thy blood, Live." (2) Place a basin of water under the bed, and also an axe with the sharp edge turned upward toward the patient. (3) Put a bunch of keys down the back; then go into a chimney corner, take out your knife, and pronounce the patient's name aloud as you open the knife; then repeat the name of the Father, Son, and Holy Ghost. (4) Take a bullet that has been shot into a beef, punch a hole in it, pass a string through it, and tie it around the patient's neck. (5) Let a child who has never seen his father rub his hands gently over the face of the patient.

Bone felon (or run-around): (1) Hold the finger in a cat's ear for half an hour. (2) Catch a mole, and hold it up over your head and squeeze it in your hand until it dies.

Hydrophobia: (1) Inscribe upon a loaf of bread, on the upper crust, the following words, and give it to man or beast, as the case may require: "Cerum heirum Lada frium, hide thyself." (2) Write the following on a slip of paper: "Box, mox, amox, armox;" and then roll it up into a ball and swallow it.

Vesical calculus: Take three sow-bugs, dry and powder them, and give what will lie flat on the point of a knife three times a day.

Atrophy: (1) Go to the person performing the cure nine mornings before sunrise; rub the part affected with a rock; lay

the rock down after passing it over the left shoulder in the name of the Father, Son, and Holy Ghost. (2) Go before sunrise to a cedar bush, break off a twig, say to it "No thanks to you"—walk backward in a different direction from which you came until you stumble over wood or stone, and then bury the twig.

Pain, neuralgia, colic, etc.: (1) Repeat the name of the person, and say the following: "Lucky is the day; lucky is the hour; lucky is the minute that it happened; pain, leave thyself and fly into the air, by the help of the Almighty, Amen." (2) Get a child to rub its hands seven times over a barrel, then apply them gently to the part affected.

Croup: Put a mole's foot or amber beads on a string, and tie it around the child's neck.

Pertussis: (1) Let the father of the child go to a stream, and catch nine fish, spit into their mouths, then throw them back into the water alive, and return. (2) A teaspoonful of mare's milk three times a day.

Measles: The excrement from the sheep, made into an infusion, is said to be a sovereign remedy.

Inflamed liver: Get some of the water in which a corpse has been washed; give a teaspoonful three times a day.

To rearrange bones of new-born baby's head: Put the thumb of the left hand into the roof of the child's mouth, with the right hand support the back of the child's head; jump it up and down three times, when the head will be symmetrically rounded.

Dressing new-born baby: Slip the dress on over a boy's feet, as it will make him bashful if put on over his head; and just the reverse when dressing a girl.

To remove a tumor: Repeat the following: "Flesh and bone; marrow and bone; the tumor is harder than any bone." Rub it three times with a spade, and throw the spade over the left shoulder.

Malaria: (1) Chew the first violets of the season. (2) Eat apples at Easter time. (3) Keep a three-colored cat in the house. (4) Pass the fever over to some one else, if possible to an animal or plant, or bury it in the ground.

For ulcers, carry a nutmeg in the pocket.

Boils: Wear a gold piece, or a half of a hard-boiled egg, over the lesion.

Cancer may be cured by applying warm hen's, pigeon's, or calf's flesh.

For ranula of the tongue, spit on a frog.

Gout: Wear a copper ring, made from a coffin-nail, or carry

in the pocket a snake-skin, potato, chestnut, or the tooth of a mole, or a dried toad.

Alcoholism: Drown an eel in brandy, and make the drunkard drink it.

Impotence: Drink a glass of mother's milk.

Stomach trouble: Beer poured over a red-hot horseshoe is helpful.

Freckles may be removed by washing in water contained in a hollow stump three successive mornings before sunrise.

The Manx people believe that it will dwarf or wizen a baby if any one steps over it or walks around it.

In some parts of England people bind up the infant's right hand that it may have riches when grown.

In Yorkshire, England, a new-born babe is placed in a maiden's arms before being touched by any one else, in order to insure good luck.

In South America a book, a piece of money, and a bottle of liquor are placed before the infant the day it is one year old, to ascertain its bent in life.

A baby is considered lucky in Scotland if it handles its spoon with its left hand, and it will be perfectly happy and successful if it has a number of falls before its first birthday.

In the north of England, when a child is taken from a house for the first time it is given an egg, some salt, and a small loaf of bread, and occasionally a piece of money to insure it against coming to want.

In Germany it is considered necessary that a child should "go up" before it goes down in the world, so it is carried up-stairs as soon as it is born. In case there is no up-stairs, the nurse mounts a table or chair with the infant.

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CORRESPONDENCE.

"CHRONIC DYSENTERY."

To the Editor of the MEDICAL AGE:

DEAR DOCTOR—Allow me to express my approval of the article on "Chronic Dysentery" by Dr. Cooke in your issue of June 10. Except by a loose use of terms, there can no more be a chronic dysentery than a chronic typhoid. However, there is no particular etymologic justification for our objection, and, as Dr. Cooke points out, we cannot use any one term as a substitute for the older, general one of dysentery. The chronic inflammation may involve almost any part of the large intestine, so that a number of compound terms are necessary, such as scoleco-typhlitis, typhocolitis, colosigmoiditis, coloproctitis, and even trinomial terms. Really, we need a general term for inflammation of the large intestine, say "megalenteritis."

In speaking of proctitis complicating acute dysentery, Dr. Cooke makes the statement that "no element of specificity is necessary to account for this." This statement is correct enough in itself, but as I understand the matter of nomenclature, the only objection to the common use of the term *chronic dysentery* is that the word *dysentery* does imply a specific disease, or rather one of two specific diseases.

Unfortunately, the conception of specificity of diseases anticipated by many years the scientific study of bacteriology and animal parasitology, which alone can demonstrate specificity. In a surprising number of diseases the specificity, as determined clinically, has been verified bacteriologically. It seems doubtful whether the quite prevalent dysentery of a generation or two ago was, in all or even most instances, what we would call dysentery to-day. In more than fifteen years' continuous practice in Buffalo, nine of which have been almost absolutely limited to digestive diseases, I have never seen an autochthonous case, yet dysentery is said to have been fairly common forty or fifty years ago.

Dysentery, to-day, means an infection with the bacillus of Shiga or the ameba coli. There is some question as to the pathogenicity of the latter and its competence to produce a specific colitis alone. It is sometimes harmless, and it is not impossible that all cases of amebic dysentery will prove to be due to bacteria,

the ameba being merely a harmless Jonahic parasite or a contributory irritant. A personal experience makes me rather skeptic as to sporadic amebic dysentery. Some years ago such a case was reported from a northern city. The case had been under my observation, and I had repeatedly examined the stools, even taking pains to obtain them while still warm. I could find nothing but leucocytes and epithelium. The case was then examined by a young man who, like myself, had never seen a living ameba coli, and he found large numbers of them in the first slide. I saw similar slides later, and identified as leucocytes what he called amebæ.

Within the last few years there has been considerable discussion as to the occurrence of genuine dysentery in the northern United States, and the present opinion is that much, if not practically all, of summer diarrhea of infants—cholera infantum—is a true Shiga dysentery. This opinion rests on excellent and numerous authority. It is presumptuous to question it yet, but I will venture to point out that summer diarrhea is connected by probability with colon bacillus infection, or with bacillus lactis aerogenes, or with various non-specific germs; that there is a possibility of confusion of different bacilli, and indeed that the reports in some instances call attention to variations of type; and finally, and most important of all from a clinical standpoint, that it is scarcely tenable that a specific disease should be prevalent in atypic form in infants and not occur in the ordinary form in adults.

Regarding the pathology and etiology of so-called *chronic dysentery,* there is quite apt to be a local lesion either in the rectum or the appendix or cæcum, or else there is an ulcer somewhere in the large intestine. Otherwise there is usually no blood in the discharges, and we have the so-called colonic neurosis with discharge of mucus. But even this may center in a chronically inflamed appendix. One of my cases dated from an attack of varioloid and had lasted for ten years. The question arises whether the phytorrhyctes can cause a lesion of the bowel.

A. L. Benedict.

Buffalo, N. Y.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

SEA-BATHING.

The custom of making an annual visitation to the seashore is one the wisdom of which may find its justification in the antiquity of the pursuit. Habits long ingrained in a race become strangely persistent, but the survival of them, like everything else, ultimately depends on their relative welfare to the organism. It is therefore reasonable to suppose that the annual sojourn at the seashore would not have become so popular and general had not its advantages at least been demonstrated in the crucible of experience.

What has modern medical science to say of the benefits accruing from marine climates and sea-bathing? Certain facts are at least well known. The air at the seashore is at its maximum density, and barometric pressure is the highest. There microorganisms are in fewer numbers than inland. The surrounding temperature is more uniform. Winds are more frequent and more violent. The air is richer in ozone. The humidity is greater and rains are more frequent. Sunlight is more intense and possesses certain special characteristics; while it is deprived of part of its heat rays, it has more of the luminous and chemical rays.

All these qualities have a bearing upon the seaside sojourner. The thermic stability has a sedative effect, and the lack of microorganisms is of distinct value. The increased barometric pressure and increased richness of oxygen, double that of ordinary air, do not however appear to have any marked influence on nutritive exchanges.

According to Robin and Binet, at the seashore the production of carbon dioxide increases and the intake of oxygen is increased. Urea increases in production, but uric acid diminishes. The

sulphates and chlorides do not vary perceptibly. These observers do not notice that any changes take place in healthy people from prolonged sojourn by the seashore. The organic exchanges are stimulated in only seventy-five per cent of cases, and it seems probable that the first stimulating effects are attenuated as people become acclimatized.

Considered solely from the standpoint of the organic interchanges sojourn at the seaside should be limited to anemic, lymphatic, or scrofulous patients, to neurasthenics with impaired digestion, and to all those individuals in whom it is desirable to accelerate organic metamorphosis. The tubercular should not be sent to the seashore because they already exhibit superactivity in tissue metamorphosis.

Much more marked than the effects of marine climate are those of sea-bathing, which are indicated in all the conditions in which it is wise to stimulate retrograde changes and procure elimination. In the anemic, the chlorotic, in tubercular diseases of bone or gland, in cases of obesity in which azotate oxidation is diminished, in gastrointestinal intoxications, in the dyspepsias, in neurasthenia, and in certain cases of diabetes in which the azotate exchanges are diminished—in all these sea-bathing will fulfil certain therapeutic indications.

In noting the effects of sea-bathing individually on the organic interchanges, the scope of sea-bathing can of course be extended, but it is only by doing this its indications and contraindications can be scientifically established.

EDITORIAL NOTES.

An Unfair Ruling.

A Pennsylvania judge has recently handed down what seems to be a most unfair ruling in a suit against the Metropolitan Life Insurance Company. Some years ago an individual took out a policy with this company, in which was a clause providing that after two years the policy should be non-contestable except for non-payment of premium or fraud. Last year the insured, who had kept up all his payments, was hanged for murder. Upon refusal of the company to pay to his heirs the amount of the policy, suit was brought against them. The judge before whom the case was tried said: "We consider, therefore, that upon grounds of public policy the law of Pennsylvania forbids recovery

upon a policy where the insured has been executed for crime, and this whether the policy contains a clause upon the subject or not, and even if it stipulates that the company shall be liable in such a contingency. The rule for judgment is discharged." There appears to be more law than justice in this decision, for just why the man's wife and family should be held responsible for his manner of leaving this earth is hard to see.

A New Form of Headache.

A writer in an English contemporary describes a form of headache the origin of which he attributes to sightseeing. From his observation there is reason to attribute it in part at least to strain on the muscles that turn the eyeballs upward. A lady who found no inconvenience in visiting the theater when she sat in the dress circle, always suffered from severe headache when she sat in the orchestra, where she had to look up. The same effect is produced in picture galleries, especially in looking at pictures hung above the line. Cyclists, who lean over the handle-bars and turn their eyes up to look ahead, have the same trouble, and so do compositors and people in many other occupations requiring continued use of the elevator muscles. The eyeballs move from side to side with less strain and discomfort than up and down. It is doubtful if the fear of this form of headache will deter any one from traveling with its incidental sightseeing, should the opportunity present itself for their doing it.

A New Hemostatic.

A German investigator has recently obtained from the spleen by antolysis a new drug which he claims possesses great hemostatic properties. He claims to have treated successfully a number of cases of menorrhagia and metrorrhagia. The drug acts locally in a chemical way by coagulating the blood. While the inventor has not sufficient evidence at present he believes that it will be of value in the various internal diseases accompanied by hemorrhage, such as gastric ulcer, intestinal or pulmonary hemorrhages, etc. The drug is an extract from the spleens of horses obtained by a method of antiseptic antolysis. A number ef experiments on animals showed a reduction in the blood-pressure and apparently an increased tendency of the blood to coagulate. The good results claimed from the use of this new drug may result in adding a styptic worthy of more extended trials.

ITEMS AND NOTES.

There were 44,783 deaths from plague in India during the week ending April 30.

The fourth Pan-American Medical Congress will meet in Panama the latter part of December.

The National Association for the Study and Prevention of Tuberculosis was organized June 6, at Atlantic City.

The International Congress of Physiologists will hold its sixth meeting at Brussels this year from August 30 to September 3.

The next meeting of the International Congress for the Study of Tuberculosis will be held in Paris in 1905, from October 2 to 7.

The second congress of the French-speaking physicians of America was held in Montreal during the first week in this month.

The committee of the Massachusetts State legislature which has had under consideration a bill for the regulation and control of vivisection has given leave to the petitioners to withdraw. This seems to be a polite expression for rejection of the measure, which has had the same fate for several preceding years.

Among the members of the medical profession in foreign countries who have recently died are Dr. Camille Miot, of Paris, one of the pioneers of otology in France, and author of numerous writings on subjects pertaining to that department of medical practice, aged sixty-six; Dr. Francois Jouon, professor of anatomy in the Medical School of Nantes; and Dr. C. Rouget, emeritus professor of physiology in the University of Montpellier.

At the closing of the American Surgical Association, June 17, the following officers were elected for the year 1904-1905: President, George Ben Johnson, Richmond, Va.; vice-president, Emmett Rixford, San Francisco; secretary, Dudley T. Allen, Cleveland; recorder, Richard T. Hart, Philadelphia; treasurer, R. S. Fowler, Brooklyn. San Francisco was chosen as the place of meeting for 1905.

SHORTLY before adjournment Congress passed a law regulating the practice of medicine in Indian Territory. No one is allowed to practice without being registered in the office of the clerk of the United States court in the district. One desiring to practice must present his or her diploma to the board of examiners (appointed by the judges in the several districts) for the district. If the diploma is approved by the board, registry may be obtained without examination. No diploma issued after July 1, 1904, will be accepted, unless it has been granted by a college requiring a preliminary examination and a four-years' course of medical study. In the absence of a diploma or the possession of one not approved by the board, an examination will be required.

AT a recent meeting of the Red Cross Society in Washington, the trouble which has divided the members of the society into two factions was, it is hoped, satisfactorily adjusted, says the *Medical Record*. All the trustees and other officers, with the exception of three, resigned, and a new set was elected. Ex-Surgeon-General W. K. Van Ruypen of the navy was made president, and Dr. Walter Wyman, surgeon-general of the Public Health and Marine Hospital Service, vice-president. The appointment of a special committee was authorized to adopt resolutions in recognition of the services of Clara Barton, the former president of the society. A resolution complimentary to Miss Barton was offered at the meeting, but it was ruled out of order.

ACCORDING to the Bulletin of the New York State Department of Health, 13,700 deaths occurred during the month of April. The Bulletin states that this month has generally the uniform mortality of about 10,500, and is seldom subject to fluctuation. However, the number of deaths for this April is within 300 deaths of April, 1891, and within 600 of that of the month preceding, so that it stands the third highest on the record of monthly death-rates. It is further exceptional in that it is sequent to a series of months of excessive mortality. In the four months of this year there have been 53,000 deaths in this State, against 44,500 for the same months in 1903, and 43,300 in 1902. At this rate for the year there would be 160,000 deaths against 130,000, or against an average yearly mortality of recent past years of from 125,000 to 130,000. The chief increase in mortality is in diseases of the respiratory system, and especially from pneumonia, from which there were 2500 more deaths than in the four months of the preceding two years. The increase has been general throughout the State.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Surgery of Hydrocephalus.

B. Merrill Ricketts (*American Medicine,* June 18, 1904) says that excessive secretion of the cerebral meninges may occur in any form of animal life. The various forms of vegetable life are subject to excessive local or general secretion to a fatal degree. Hydrocephalus, ventricular or meningeal, may develop *in utero* or at any time throughout infant or adult life.

The cases of spontaneous recovery are probably numerous, especially in infant life, in which the arachnoid is alone involved.

All cavities may unite, with or without external rupture; when so it is usually fatal, not necessarily instantly so.

Spontaneous rupture may occur externally or subcutaneously, with an occasional recovery.

The effusion may be into the lateral third or fourth ventricle, or it may be in the arachnoid or subarachnoid cavity, one or all.

A clot in the arachnoid may cause a cyst, which will enlarge, with all its consequences.

Syphilis, tuberculosis, and rickets have been assigned as causes of hydrocephalus, but such have never been proved; the cause is yet unknown.

Sometimes zones of new osseous material are scattered here and there in the meninges, and sometimes upon or in the brain substance.

The septum lucidum is invariably thickened, as are the cerebral meninges in general.

Probably the greater number of cases of early hydrocephalus, whether of the third, fourth, fifth, or lateral ventricle, or of the arachnoid variety, can be cured by some form of drainage.

Continued drainage by seton or by the repeated use of the trocar has given the best results in the way of benefit or cure.

Spinal drainage has been practiced in a very limited degree, and its value is as yet undetermined.

Subcutaneous drainage has not resulted in a cure, but there seem to be many possibilities for this method.

Trephining for drainage is only resorted to in cases in which the fontanels have been closed by bony union.

Results from drainage are more favorable if done when presence of fluid is first detected.

It is sometimes necessary to drain both hemispheres, together with the right and left cerebellar cavity.

The secret of curing arachnoid hydrocephalus by drainage probably lies in obliterating the arachnoid cavity. However, this can be done with hydrocephalus of the third, fourth, and fifth ventricle variety.

The cardinal principle in this, as in all operations upon the brain, is asepsis.

Treatment of Tubercular Abscesses of Bone.

L. S. Starr (*American Journal of Surgery and Gynecology*, June, 1904) says that in the cervical region abscesses should not be opened by way of the pharynx, unless dyspnea is present, on account of the possibility of mixed infection. All lateral cervical abscesses should be opened in the posterior triangle immediately behind the sternomastoid.

In the dorsal region above the eleventh vertebra, abscesses may be located in front of the spine, displacing the aorta and esophagus, or making pressure on the vagus or bronchi. These may rupture into the lungs or pleura, or may work out between the ribs, or may pass down through the diaphragm. Those in front of the spine may be treated by expectant plan if symptoms are not urgent, but if interference is necessary a portion of rib and transverse process must be excised, and the abscess evacuated in this way.

Abscesses in the last dorsal or lumbar vertebra will follow the sheath of the psoas muscle and rupture the sheath just above or below Poupart's ligament, filling the iliac fossa, and burrowing down into the thigh or up above the crest of the ilium into the lumbar region. The treatment should be by free incision, multiple if necessary, as far away from the groin as possible, with scraping of the wall, care being taken to avoid the posterior wall where the iliac vessels are situated, afterward swabbing with iodoform gauze. It may be necessary to make an opening in the lumbar region as well to entirely evacuate the cavity. A strand of gauze can be carried between the two openings and the cavity thoroughly cleaned in this way, afterward closing both wounds.

Pathology and Treatment of Simple Fracture of the Patella.

E. Eliot (*Medical News,* June 11, 1904) says that owing to the not infrequent uncontrollable rotation of the lower fragment through an arc of 90 degrees on its horizonital axis accurate apposition of the fracture surfaces cannot always be secured, and under these circumstances the ultimate result of conservative treatment could scarcely prove satisfactory. Suitable apposition may also be prevented by the interposition of torn shreds of capsule, by extravasated blood-clot, and possibly also by the interposition of untorn periosteum, conditions which can be recognized and remedied by exploration. Suture of the fragments permits of simultaneous suture of the torn capsule, a procedure of the greatest importance for restoration of joint security. The results of suture are almost invariably excellent, and the risk of operation is comparatively slight. The writer declares that in no way does he wish to belittle the risk of operation. The exercise of the most rigid aseptic precautions in all that pertains to the operation cannot be too greatly emphasized. If in any case there are reasons why the highest degree of surgical asepsis cannot be practiced, it is far better to advise some non-operative procedure than to subject the patient to the possibility of a septic arthritis.

General Septic Infection of Nasal Origin.

A. L. Turner (*Laryngoscope,* June, 1904) draws attention to the possibility of general infection arising from an intranasal lesion which may be easily overlooked. The symptoms may suggest the existence of such conditions as ague, typhoid fever, or pulmonary phthisis. The causal factor in the nose may be a very slight one, or a more serious lesion may exist without the patient being aware of it.

MEDICINE.

Sunstroke.

The following practical hints are from the Chicago Health Bulletin of June 18: "There are two forms of sunstroke. The mildest is that known as heat exhaustion. This manifests itself in the case of people who are overcome by heat without being actually sunstruck. In this form the skin is pale, cold,

and clammy, and the pulse feeble. While death sometimes results, the patients under good treatment will usually recover. Persons affected in this way should be removed to a shady spot and have their heads and chests dashed with cold water. Spirits of ammonia (hartshorn) should be applied to the nostrils, and sometimes it is necessary to administer small quantities of stimulants.

"Heat-stroke or insolation is the serious form of this trouble, and the one to be most closely guarded against. In cases of real insolation the face becomes purplish, eyes bloodshot, veins swollen and corded, and the skin dry and burning hot to the touch. It is not always fatal, but many of those whose lives are saved are ever afterward invalids, with brain power more or less impaired. The effect of the sun's heat seems to be most marked on the brain and spinal marrow. When real insolation occurs the brain becomes so heated that the human 'heat center,' controlling the production of bodily heat, is affected, and the temperature rises from the healthy mark, 98½°, to as high as 110° or over, and often keeps on rising for some time after death. The 'heat center' lies at the back of the head and should be protected from the direct rays of the sun.

"Insolation is so dangerous that a physician should be called as soon as possible. While awaiting the doctor's arrival much good can be done and life often saved by applications of ice to the head and spinal column. It is best broken in small pieces and placed in cloth or rubber bags, but when these are not to be had ice can be placed directly about the head and neck.

"Workmen and others exposed to the direct rays of the sun should have their heads well protected and should wear woolen next to the skin. A very useful precaution is a pad of cotton batting or flannel sewed along the back of the undergarment, so as to cover and protect the spine. . . . As long as perspiration is free people can stand a high degree of heat, as the evaporation of the moisture of the body tends to cool it. But in 'muggy' weather the excess of humidity in the atmosphere checks this evaporation. Then when the temperature exceeds or approaches the normal bodily heat of 98½° there is trouble.

"People should be careful not to expose themselves unnecessarily in hot weather of any kind, but when the conditions are such as here named they should be extraordinarily careful. It is well to bear in mind the old rules: Keep cool as to temper and your body will not get hot; avoid all alcoholic drinks; eat

less than usual and more simply; walk on the shady side of the street; avoid overexertion; let the air circulate freely about the head, either by frequent removals of the hat or by wearing a perforated head covering.

"Insolation is more far-reaching and dangerous in its effects than most people know of; therefore a doctor should be called at once to any one with the symptoms above described as indicating heat-stroke or true insolation."

Glycosuria and Hypertrophied Thyroid in Pregnancy.

L. Bar (*British Medical Journal,* May 28, 1904) considers that a case under his observation seemed to show that there is a close association between eclampsia, the albuminuria of pregnancy, and certain affections of the thyroid body. The patient was six and a half months pregnant. She had noticed that her neck had been swelling for some time; its circumference was 11¼ inches above and 12¾ inches below. There was no exophthalmos or edema, but there was a trace of albumin in the urine, which contained 3.66 grammes of sugar to the liter. Under a diet of milk and meat the glycosuria vanished, but on its discontinuance sugar reappeared and continued for three weeks until delivery. At that date the circumference of the neck was still 11¼ inches above, but nearly 14½ inches below. A fortnight after delivery sugar had disappeared from the urine, and the neck showed slight reduction in circumference below (14 inches); two months later the measurement was 12¾ inches, as when the patient was first examined. The glycosuria —a disturbance of nutrition, which in Bar's opinion is akin to albuminuria—was possibly caused by changes in the thyroid.

The Tracheal Traction Test as an Aid in the Recognition of the Asthmatic Lung.

A. Abrams (*Medical News,* July 2, 1904) says that when the head is thrown forcibly backward the normal resonance obtained by percussion over the manubrium and lungs contiguous thereto becomes converted into a dull, flat sound. This maneuver the writer has called the tracheal traction test. The tracheal traction test is positive in health and in all cardiopulmonary affections, but it is negative in cases of idiopathic asthma. The recognition of this test affords a valuable aid in the diagnosis of idiopathic asthma and assists in its differen-

tiation from symptomatic asthma and other spasmodic pulmonary affections which suggest an asthmatic genesis. The maneuver specified as tracheal traction evokes contraction of the bronchial muscles by stimulation of the pneumogastric nerves. In asthma the tone of the bronchial muscle is so reduced that it no longer responds to vagus stimulation brought about when the neck is forcibly extended on the sternum; hence the tracheal traction test in idiopathic asthma is negative.

Vesical Retention of Urine.

According to F. C. Valentine and T. M. Townsend (*Medical News,* June 18, 1904), when danger to life is not imminent the domestic methods ordinarily employed may relieve the vesical retention, provided no mechanical obstacle exists. Diuretics, diluents, and antispasmodics are of no use in vesical retention of urine. Opiates and general anesthesia are useful only under certain circumstances. Capital surgical intervention may be necessary to cure the basic condition, but the urgent symptoms can, in most instances, be relieved without life-endangering procedures. Even the youngest general practitioner can carry every case of vesical retention of urine to a successful issue. The cause of the retention must in each case be ascertained. Only most exceptionally does a case present which cannot be relieved by minor procedures. No bladder should be suddenly entirely emptied because of danger of hemorrhage *ex vacuo.*

Lipomatosis or Degenerative Change.

Kisch (*Berliner klin. Wochenschrift,* 21, 1904) examined 488 cases of marked lipomatosis with the view of demonstrating them to be degenerative changes. As a result of his observations he believes that the hereditary lipomatosis evidenced in early childhood is a symptom of hereditary degeneration. As a sign of the degeneration of the hereditary juvenile lipomatosis the inclination to diabetes, and in women sterility, is cited.

Scurvy in Infants.

W. F. Cheney (*Medical News,* June 4, 1904) says that in the treatment of this disease three measures are indicated: (1) Discontinue the proprietary food; substitute a mixture of fresh

milk diluted with water or with oatmeal water. (2) Give fresh orange juice, in dose of one or two teaspoonfuls three times a day. It is surprising how babies with scurvy take to this and seem to enjoy it. (3) Give freshly expressed beef juice, squeezed from rare steak, in doses of one or two teaspoonfuls three times a day. (4) Give no drugs at all.

THERAPEUTICS.

The Treatment of Urinary Incontinence by Lumbar Puncture.

At a recent meeting of the Paris Medical Society, M. Babinski and M. Boisseau (*Lancet*, May, 1904) showed two patients who had suffered from incontinence of urine and had been cured by lumbar puncture. The first patient was a young woman, aged seventeen years, who ever since the age of seven years had suffered from nocturnal incontinence. Lumbar puncture was performed, and 15 cubic centimeters of cerebrospinal fluid was drawn off, the patient having no incontinence for the next eight days. From the ninth to the thirteenth day she had incontinence twice. A second puncture was then made, and on the fifth and seventh day after this operation the patient had incontinence, but since that date, two months ago, she has had none.

The second patient was syphilitic, and for two years had suffered from spasmodic paraplegia and incontinence both of feces and urine. The incontinence was not due to overfilling of the viscera, but to paralysis of the sphincters. Lumbar puncture was performed, and 15 cubic centimeters of fluid was withdrawn and the incontinence disappeared. The patient could pass the water voluntarily, and felt both the need of passing water and the passage of feces, which had never been the case previously.

M. Babinski and M. Boisseau had seen two other cases of the same kind. One was a child, fourteen years old, who had suffered from incontinence both by day and night for six weeks. Belladonna had been tried without result, and after lumbar puncture the diurnal incontinence disappeared altogether, but the nocturnal incontinence reappeared two months after the operation for one month, but only every four nights or so, and finally disappeared altogether fifteen days after lumbar punc-

ture had been performed for the second time. The other patient had suffered from paraplegia for a year and had had nocturnal incontinence for one month. After one lumbar puncture this incontinence disappeared, and had not reappeared for a fortnight.

Finally, a patient suffering from ataxia who had had incontinence for four years received no benefit from lumbar puncture, although three years previously the incontinence had ceased for fifteen days after a lumbar puncture made for the purpose of a cytological examination.

Without pretending to explain the mode of action of this treatment M. Babinski and M. Boisseau considered that it was a good method of treatment for a very troublesome affection, and that it was quite worth while to make further researches into the matter.

The Local Use of Quinine in Hay-fever.

A. D. Fulton (*Medical Record*, June 25, 1904) offers a method of treatment, using quinine locally in typical cases of hay-fever, which has proven remarkably successful in his hands. The treatment consists of the employment of a saturated solution of the quinine sulphate in sterilized water, as a nasal spray, and the application to the mucous membrane of the nares of an ointment consisting of quinine and vaselin in the proportion of thirty grains to the ounce, the applications being made every four or six hours. After trying various unguents and combinations, Fulton found simple vaselin to be the best. The white vaselin is not suitable, nor is the liquid vaselin. Lanolin is an ideal base, but is too offensive to the sense of smell. The use of the spray alone will not suffice, but should be used as an adjunct to the ointment. Spraying the nares will at once stop all symptoms of coryza, but the effect will not be maintained long unless followed by the thorough application of the ointment. This may account for the failure of this treatment as first suggested by Helmholtz, who employed only the spray. The application of the ointment should be made at least every six hours, although it may be necessary to repeat it every four hours. An application at bedtime, and at two or three o'clock in the morning, will prevent all symptoms through the night. Two or three applications of the spray should be made in the twenty-four hours, at the times when the patient has found the irritation to

be at the maximum degree of intensity. In respect to the mode of using ointment, the little finger is the most convenient applicator.

As far as the effects of this simple remedy have been observed, the results are as follows: Used according to the foregoing suggestions, the symptoms of coryza are immediately removed, nor will they return as long as the treatment is continued. The usual accompanying irritation of the conjunctivæ, of the Eustachian tubes and palate quickly subsides. Opportunities have not been made so far to test this treatment in irregular types of the disease, or to estimate how far these results may be modified by individual peculiarities, but as far as its effects have been noted it seems fair to conclude that hay-fever subjects will find this a remedy of actual value, and that it will promptly and completely relieve a large proportion of these cases.

How the General Practitioner Should Treat Gonorrhea.

At the recent meeting of the American Medical Association F. C. Valentine read a paper under this title. He offered the following conclusions: (1) Every general practitioner is practically competent to treat successfully uncomplicated anterior gonorrhea, if he will devote as much attention to this as he does to any one other disease. (2) Every patient with gonorrhea is entitled to the services of his family physician, just as much as though he had acquired some other disease in consequence of drunkenness or other violation of morals. (3) The general practitioner who declines to treat uncomplicated anterior gonorrhea avoids one of his most sacred duties to the profession and to humanity. (4) The patient who, because he has gonorrhea, refuses the services of his family physician is likely to become an opponent of scientific medicine, to the detriment of his health, that of his family, and that of the community. (5) The scientific treatment of this form of gonorrhea is perfectly within the power of the general practitioner. (6) The irrigation treatment is as yet the most effective method, and is most in accord with the modern scientific understanding of the disease.

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ORIGINAL CONTRIBUTIONS.

SPECIAL TOPOGRAPHY OF THE URETER, RECTUM, LIVER, PANCREAS, AND SPLEEN.

BY BYRON ROBINSON, B.S., M.D., CHICAGO.

Topography of Ureter and Rectum.—The relations of the ureter to the rectum are always of extreme interest to the surgeon, as both rectum and ureter are located in the region of the tractus genitalis—a fertile and successful field of surgical intervention. Besides, certain segments of the tractus intestinalis—rectum, sigmoid enteronic loop, appendix and cæcum—are frequently involved in the increasing field of pelvic surgery. The increasing domain of pelvic surgery demands an accurate anatomy and topography of the pelvic ureters. The signification of the topography of the ureters and rectum is indicated by the view that the whole pelvic ureter can be palpated per rectum. An excellent method to demonstrate the topography of ureter and rectum is to remove the sigmoid, rectum, and anus, with the tractus genitalis and tractus urinarius intact, from the cadaver, when the tractus genitalis, tractus urinarius, and fragment of the tractus intestinalis—sigmoid and rectum—are distended with air and allowed to dry. The locations of inevitable contact of ureters with distended sigmoid and rectum are indelibly evident. The various visceral tracts of the specimens can be painted in different shades of color for contrast and photographed. The pelvic ureter may be palpated per rectum. The rectum being evacuated, the finger is introduced and passed as far as the bifurcation of the iliac artery by strongly forcing the yielding pelvic floor proximalward. The examining finger begins now to palpate either dorsal or ventral to the internal iliac artery, which is recognized by pulsation, until the ureter is felt like a flat cord.

By persisting in palpation in spare patients one can trace the ureter to its entrance into the bladder on the ventral vaginal wall. If the ureter be thickened it can be detected with facility. In palpating the pelvic ureter the finger is guided by its dimensions, consistence, course, and mobility. It may be easily mistaken for the sharp structures on the lateral pelvic wall from which the levator ani arises. The ureter may be confused with the obturator nerve, but this can be traced to the obturator foramen, and, besides, pressure will give pain. The ureter, in palpation per rectum, may be confounded with the obturator artery, but the artery pulsates, is small, and is directed to the obturator foramen. The ureter can be distinctly palpated while a catheter lies in its lumen. In woman, toward whom our investigations are chiefly directed, the vagina lies between the bladder and rectum, and hence forces the bladder ventralward and the rectum dorsalward. The vagina in this manner lessens the intimate relations of the ureter to the rectum. With distended rectum and contracted vagina the segments of the ureter between the distal arterio-ureteral crossings and distal ureteral orifices are intimately associated for some distance with the lateral rectal wall. If the rectal ampulla be considerably distended, with a contracted vagina, some inches of ureter will practically lie against the rectal wall. The pelvic ureter, especially at its middle and distal end, varies considerably in its distance from the pelvic wall and peritoneum according to the amount of subserous panniculus adiposus, and also according to individual variation. Also the dimensions of the rectum have individual variations. From the above two causes the distance of ureter from rectum varies as well as the topography of ureter and rectum, for the rectum usually possesses a bend in its course immediately dorsal to the proximal end of the vagina. In the cadaver with injected ureter one can by practice palpate the ureter.

The topography of the accessory (gland) apparatus of the tractus intestinalis—liver, spleen, and pancreas—and ureter will be considered under three heads:

1. *Topography of the Liver and Ureter.*—Right side: A major part of the ventral surface of the kidney (ureteral calyces and pelvis) lies in a depression on the distal surface of the liver. This depression in the soft, yielding liver substance is termed impressio renalis or facies renalis. Two peritoneal layers and the parenchyma of the kidney lie between the calyces, plus part of the pelvis and the liver, hence though closely related ana-

tomically the clinical relations are practically remote, seldom complicating clinical practice except in radiating inflammatory processes, especially peritoneal and cellular adhesions.

Left side: Practically no topographic relations exist between the ureteral calyces and pelvis and the left hepatic lobe.

2. *Topography of the Ureter and Biliary Passages.*—The relations of the ureter to the vesica fellea and ductus communis choledochus are of interest as to diagnosis and surgical intervention. The gall-bladder fundus in general lies on the right end of the transverse colon in the region of the tenth costal cartilage, from which a line drawn perpendicularly distalward

FIG. 1 (Author).—Specimen removed from woman about forty-five years old. Rectum and sigmoid, bladder, and ureters distended with air and allowed to dry. Photographed and outlined by Dr. Wm. E. Holland. The ureter at 6 presents its extensive relation to the rectum (11). The uterine artery crosses ventral to the ureter at the Latin +. *L, L,* ligamentum latum; observe the extensive application of the ureter to the recto-vesical fold, marked *L, L,* Peritoneum. *Y,* the artery from which are emitted the uterine and vesical branches. (For the specimen I am indebted to Dr. Duckett.)

would strike the middle of the ligamentum inguinale and lie closely parallel to the ureter. The biliary ducts possessing a leftward spirality are frequently located more medianward. The corpus felleum or body of the gall-bladder, a cone-shaped segment in a distended state, generally makes a right angle with its neck. It may lie in the groove between the kidney and

descending duodenal segment. The neck of the gall-bladder (cervix fellea) lies against the descending duodenal segment close to the kidney. The vesica fellea, especially the cervix and corpus, frequently lies between the blades of the ligamentum hepatico-colicum. This would occasionally allow the gall-bladder to rest against the kidney with only one peritoneal layer intervening. The ductus hepaticus, vesica fellea, and ductus communis choledochus hold important anatomic and topogra-

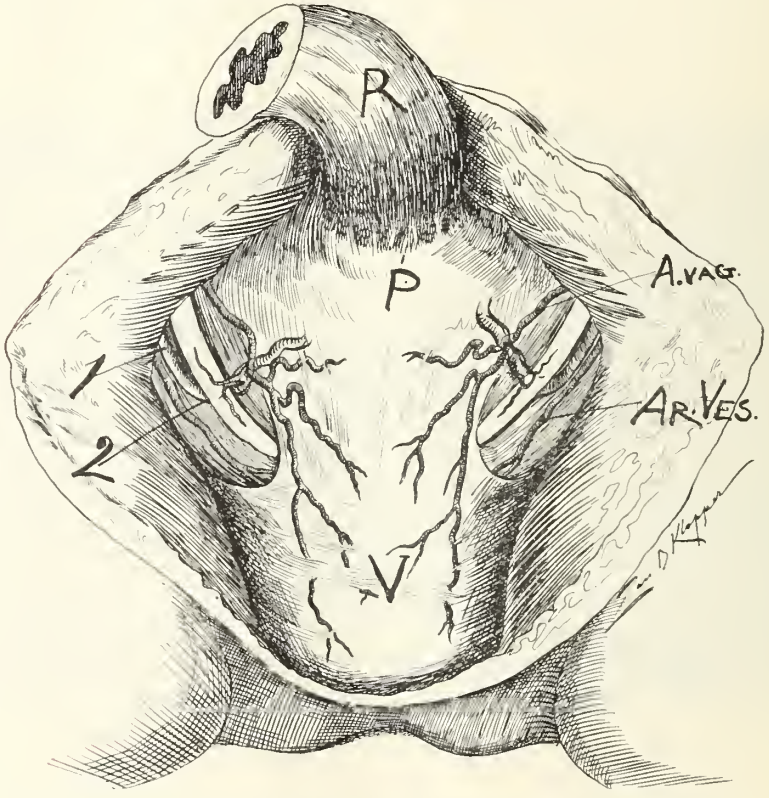

FIG. 2 (Byron Robinson).—Relations of rectum to peritoneum (*P*) and vagina (*V*). 1, Ureter; 2, distal arterio-ureteral crossing; *R*, rectum. In this drawing a suggestion from Tandler and Halban is employed.

phic relations to the ureteral calyces, pelvis, and proximal end of the ureter. This is important anatomically and clinically on account of the radiation of inflammatory processes, due chiefly to hepatic or renal calculi. The fundus felleus may lie practically in the hilus renalis, separated from it by the mesocolon transversum.

The remote sequelæ are perforation of either the biliary

or renal channel, or cellular and peritoneal adhesions, inducing flexion, torsion, compression, compromising canalization, and traumatizing nerve tracts; however, the colon transversum generally lies between the fundus of the gall-bladder and the kidney (calyces and ureter). The ductus communis choledochus holds important topographic relations to the proximal end of the ureter. The common bile-duct opens in connection with the ductus pancreatis in the dorsal and median wall of the descending duodenum at the level of the caput pancreatis, about 3 1/3 inches distalward from the pylorus. Practically the ductus communis choledochus penetrates the dorsomedial duodenal

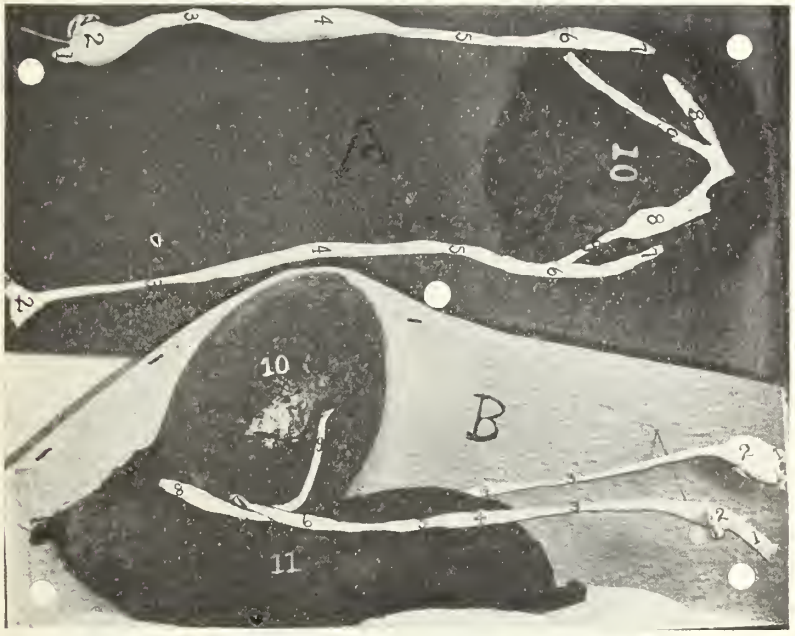

FIG. 3.—A lateral and dorsal view of specimens of the rectum, ureters, and bladder distended with air and dried. The vesiculæ seminales are also shown. *A*, specimen from boy nineteen years old; note dilated spindles (4, 6) in right ureter. The distal ends of the ureters (7, 7) are four inches apart in the specimen (resting one inch apart); 10, bladder; 8, vesiculæ seminales. In this specimen, with rectum and bladder distended to a considerable degree, the entire pelvic ureters are practically in contact with the ureters. *B*, lateral view of middle-aged man. The ureters are practically in contact with rectum and sigmoid to pelvic inlet. The crossing of ureter and vas deferens is well noted. Observe that the large rectal ampulla is practically distal to the ureters. Note ureteral spindles (6 and 4); 8, vesiculæ seminale, vas deferens; 9, bladder; 10, 2, ureteral pelves. (Dr. Wm. E. Holland executed the photograph.)

wall at the level of the hilus renalis immediately ventral to the ureteral pelvis. The duct courses through the duodenal wall obliquely for half an inch, exactly similar to the course of the ureter through the urinary bladder wall, forming a peculiar

valve. At the distal terminal end of the common bile-duct is found the so-called Vater's diverticulum—diverticulum Vateri. This is also called plica longitudinalis duodeni, or emminentia duodeni. An important topographic relation of the proximal end of the ureter arises in the exit of the ductus communis choledochus and ductus pancreatis into the dorsomedian wall of the duodenum, as hepatic calculi are apt to lodge at this

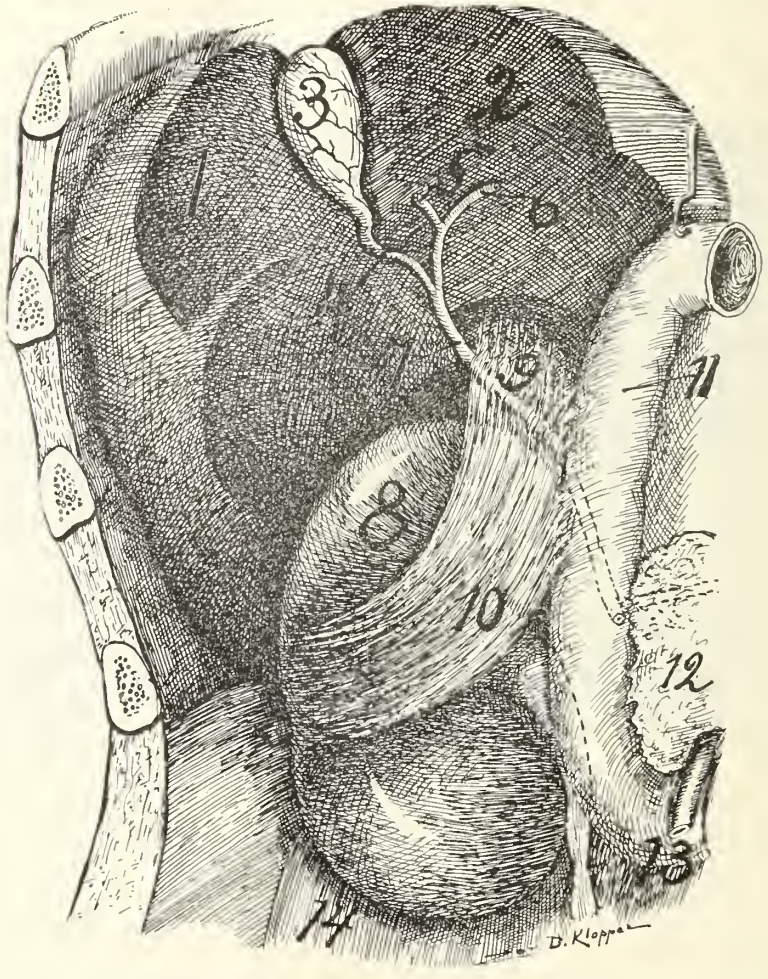

FIG. 4 (Byron Robinson).—Illustrates the topographic relation of liver to ureter with liver drawn proximalward. 3, Gall-bladder; 8, kidney; 9 and 10, ligamentum duodeno-renale; 11, duodenum; 12, caput pancreaticum. Observe that when the liver rests in its normal position the biliary passages lie practically in contact with the ureter; of course, some fragments of tissue and organs intervene. The distal end of the ductus communis choledochus coursing dorsal to the duodenum in many cases lies almost in contact.

point, and an *x*-ray view showing a calculus at the so-called Vater's diverticulum might be mistaken for a ureteral calculus.

Abraham Vater, a German anatomist (1684-1751), published an experiment in 1720 in which he injected material through the ductus communis choledochus in the direction of

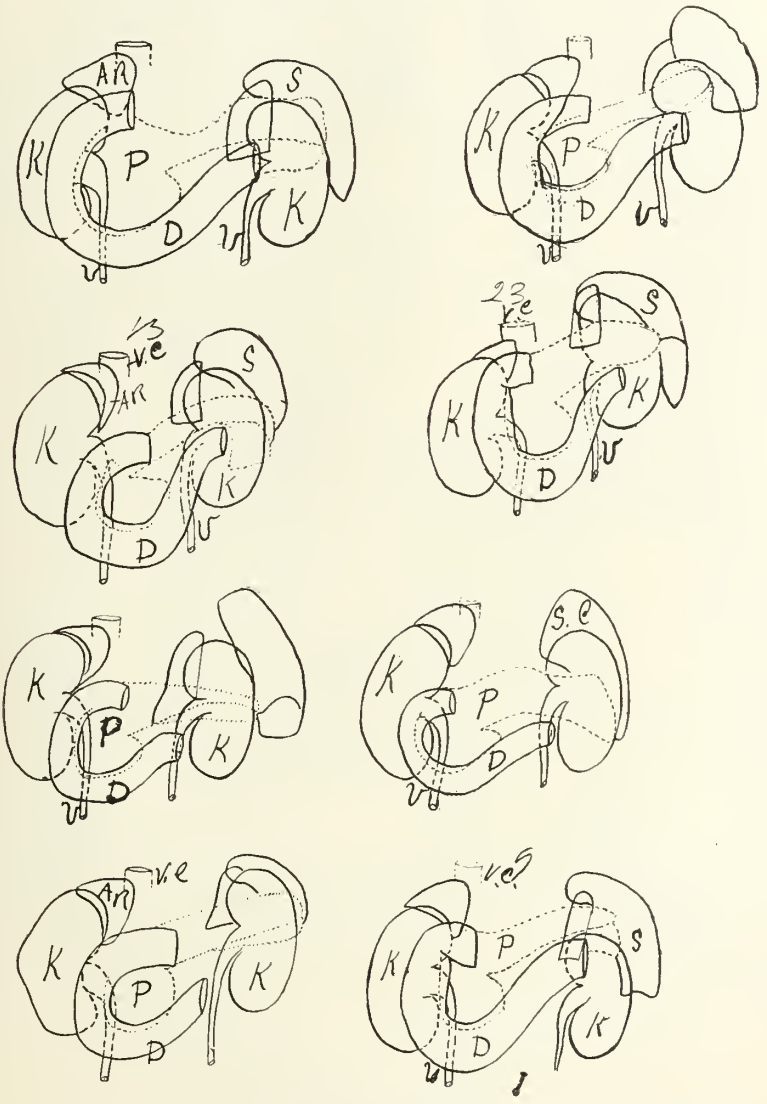

Fig. 5 (Author).—Presents relation of ureter to pancreas and spleen. *K*, kidney; *U*, ureter; *P*, pancreas; *S*, spleen; *AR*, adrenal; *D*, duodenum; *V C*, vena cava. Observe that the pancreas, both caput and cauda, is intimately associated with proximal end of ureters. The important central abdominal viscera—kidneys, pancreas, duodenum, adrenals, and spleen—hold intimate but varied topographic relations.

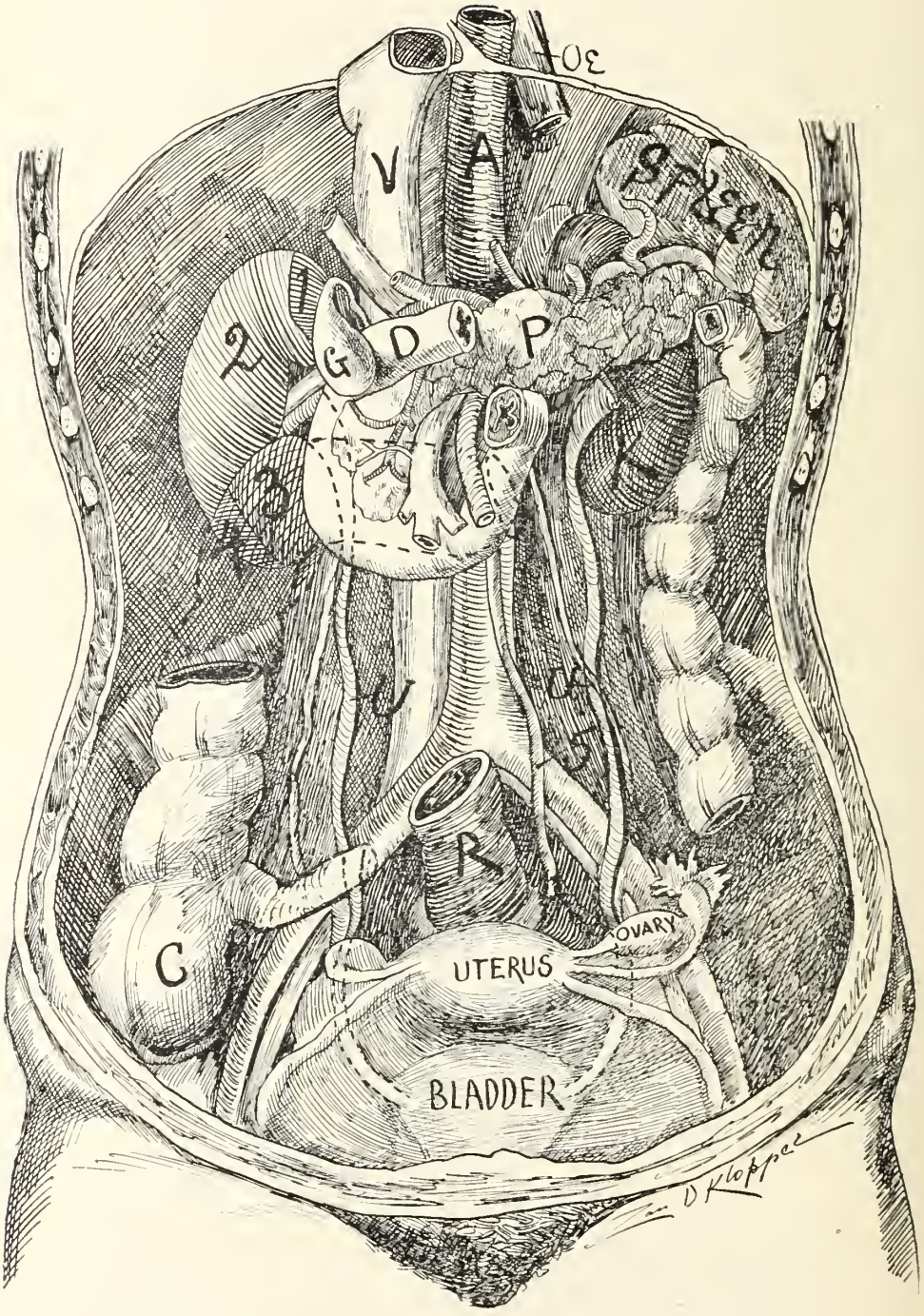

FIG. 6 (Byron Robinson).—Illustrates relation of ureter to pancreas (*P*), duodenum (*D*), and spleen.

the duodenum, and the material not only filled the ductus pancreatis, but formed an apparent bulbous swelling at the common termination of the ductus communis choledochus and ductus pancreatis. This bulbous expansion under pressure of injection at the end of the bile and pancreatic duct is perhaps a longitudinal mucous fold only and not a dilatation of the duct. In operation on the proximal end of the ureter the duodenal segment receiving the ductus hepaticus is forced medianward, which will enable the operator to localize calculi—whether the calculus be in the common bile-duct or proximal ureter. In splanchnoptosia, especially nephroptosia dextra, the ligamentum renale, a fold of peritoneum extending from the ventral surface of the kidney to the ligamentum hepatoduodenale, may produce compression or flexion in the ductus communis choledochus in such a manner that the common bile-duct becomes compromised, bile flow becomes obstructed, congestion and bile stagnation occur, bacteria multiply, and biliary catarrh resulting in hepatic calculi and empyema may occur. In the life of the adult, as the result of muscular trauma (diaphragm and psoas) and hepatic calculi, there are generally numerous peritoneal adhesions in the region of the gall-bladder, flexura coli dextra, and transverse segment of the duodenum which obscure the relation of the ureter to adjacent viscera.

3. *Topography of the Ureter and Pancreas.*—The ureteral pelvis lies dorsal to the caput pancreatis, which surrounds the descending duodenum as in a deep groove. Since the pancreas from its fixed connection possesses a short range of motion proximalward or distalward, this relation changes but slightly. The main shifting of the pancreas is toward the left. The topographic relation of the caput pancreatis and ureter is quite intimate, but is of more remote practical interest in ureteral surgical interventions because communication between the two organs from pathologic states is of slight consequence, generally resulting in circumscribed cellulitis. The distal end of the ductus pancreatis may be obstructed by calculus, and in the *x*-ray picture might be mistaken for a ureteral calculus in the calyces or pelvis (left end).

The Topography of Ureter and Spleen.—The renal surface, facies renalis, occupies the lateral portion of the proximal two-thirds of the ventral surface of the kidney. On this renal surface rests the spleen. The kidney makes an impression in the surface of the spleen, known as impressio renalis. The kidney and spleen rest in indirect contact for a considerable area. In

lien optosia the spleen glides distalward ventral to the transverse colon, in which case the spleen may assume important topography with the ureter. I have noted the spleen in the pelvis in autopsy. The anatomic relations of the spleen and ureter are intimate, but the clinical and surgical relations are remote.

COMPOUND COMMINUTED FRACTURE ASSOCIATED WITH DISLOCATION OF THE ANKLE-JOINT; COMPOUND COMMINUTED INTERCONDYLE FRACTURE.*

BY L. L. MC ARTHUR, M.D., CHICAGO, ILL.

I have two joint cases to show that to me present several points of interest, and I trust they will likewise interest the members of the society.

The first is one of compound comminuted fracture associated with dislocation at the ankle-joint. The fracture was produced by the patient stepping off a walk in crossing a ravine in one of our northern suburbs. She fell a distance of six to eight feet, striking largely with the weight of the body upon one foot, turning the ankle, so that the bones fractured first, then tore the lateral ligament of the ankle-joint, with a protrusion of the fractured end of the tibia through the surface of the shoe, and into the black mud of the ditch which made the center of the ravine. This condition of affairs was immediately found. The nearest surgeon, without full anesthesia, cleansed the parts as well as possible, and then had the patient removed to a hospital.

On admission to the hospital it was found possible to evert the foot on the leg as a hinge, so that the upper surface of the astragalus and articular surface, or what remained of the tibia, could be completely exposed; this black mud was in the deeper portions of the joint. Fortunately, the vessels of the foot were still intact. After some hesitation but reënforced by the statement of the patient that she would rather die than have an amputation, I decided to try and preserve the foot—a foot which in the preceding ten years would surely have been amputated on account of the extreme danger of a fatal sepsis. Under anesthesia it was possible to open the joint as if one was about to make a resection of it, exposing the entire articular surface by

*Read before a joint meeting of the Chicago Medical and Chicago Orthopedic Societies, March 30, 1904.

simply turning the foot outward on the leg. The fibula was comminuted; the tibia was fractured, and the internal malleolus loosened from the tibia. The broken end of the tibia had the dirt ground into the pores of the bone. This was chiseled off and freshened, the black dirt washed out of the joint as thoroughly as possible, and a 95-per-cent carbolic acid solution swabbed over the entire joint surface for the space of thirty seconds, and following that the use of alcohol until all the whitening effect of the carbolic acid had disappeared. The tibial fragments were wired together; the lower fragment, fortunately being adherent to the internal lateral ligament, by simply wiring to the shaft of the tibia allowed sufficient fixation of the foot to permit doing without a cast.

On the three following days, as has been my practice for seven or eight years, the patient was given three successive doses of antitetanic serum. If any conditions are favorable for the development of tetanus, we had those conditions in this case, namely, dirt being ground into the wound, an open joint, complicated by fracture, with the black loam of garden soil, the most frequent source of the tetanus organism. Suffice it to say, at the end of a week no suppuration practically had occurred. At the end of four weeks the patient was able to leave the hospital. After some suppuration, during which, in later months, minute fragments as large as the little finger-nail were removed, and several having been found in minute abscesses about the joint, the patient is now well and sound. She sustained the injury in May, 1901. She has slight motion in the ankle-joint.

First, I want to emphasize the desirability of trying, with the consent and understanding of the patient that it is a dangerous thing to do, to save all limbs in which circulation is good, and the opportunity at hand for aseptic surgery, or a prompt amputation, should it become necessary afterward. Second, that it is absurd to hope much from the serum after the toxins have become colligated with the nervous tissue of the spinal cord. When the final symptoms of lockjaw, opisthotonos, and stiffness of the muscles of the neck, have come on, it is a late time to think of accomplishing anything with the antitetanic serum. You do not think of giving antidiphtheritic serum after a patient has had diphtheria paralysis for some time. You give it before that. And so it is very essential to give antitetanic serum in these cases before they are in the last stages, as they are when they have lockjaw, with stiffness of the muscles of the neck, etc. Do not wait for the final signs of tetanus to develop, but treat those

cases that are susceptible to tetanus before the symptoms of this disease have developed.

Some of you may say that this might prove to be a faulty case, in that I have not demonstrated the tetanus organism to have been present; but time and again it has been clearly demonstrated that if one will shake up and make a little emulsion of black, rich loam, and inject it hypodermically into lower animals, they will develop tetanus. It is the garden soil organism which infects the inhabitants of the barnyard, the hostlers, more frequently with tetanus than any other form of wounds. So it is quite probable that if some of this black material had been utilized for developing cultures, the tetanus organism could have been demonstrated.

In every case of crushing injury, associated with the grinding in of dirt, where it was feasible to get the case early, for the last eight years I have given the antitetanic serum. Where we used to see cases develop tetanus in the hospital, now under the administration of the serum such cases do not develop that disease. That may be a *post hoc, propter hoc* conclusion, but it is in the right line.

Compound Comminuted Intercondyle Fracture.—The second case I desire to call your attention to is one of compound comminuted fracture opening up the knee-joint, the character of the fracture being oblique intercondylar, with one fragment sticking through the skin. The patient is a sign-painter, who fell from a scaffolding, striking with great violence, fracturing his knee, and driving a fragment through the integument. This wound was relatively clean, considering the wounds we see as patients come into the hospital. The clothing was not torn; but little macroscopic dirt was to be seen on the fragments. As it was a compound fracture, and involved the knee-joint, in my opinion no harm could follow in a modern hospital by enlarging this wound, seeing that the ends of the bones were free from infective material that was objectively evident, and wiring the fragments together. In this case the wound was accordingly enlarged, the bones were wired together, and we have an illustration of what a useful member can be obtained in those cases which we were formerly justified in amputating. As you observe, the limb goes back to a little more than a right angle, and the patient straightens the leg well.

An *x*-ray picture shows the fragments nicely united, and the wire *in situ*.

TUBERCULAR SPONDYLITIS—ETIOLOGY.*

BY EDWIN W. RYERSON, M.D., CHICAGO, ILL.,

Orthopedic Surgeon to St. Elizabeth's Hospital; Instructor in Orthopedics, Chicago Policlinic; Adjunct Orthopedic Surgeon to St. Luke's Hospital; Assistant in Surgery, Rush Medical College.

Tubercular spondylitis and Pott's disease are two of the names applied to a destructive tubercular process attacking the vertebræ. It occurs in the anterior portion, or body, of the vertebra, the part which does the supporting and weight-bearing of the upper half of the individual. It practically never affects the rest of the vertebra, the pedicles and laminæ and processes, but the intervertebral disks are often destroyed by the direct extension of the disease. The disease is caused by the local deposit of tubercle bacilli which have been disseminated into the blood-current, either from an older focus somewhere else in the patient's body, or from some direct infection of the circulation through the skin or mucous membranes. This latter method is rare, but is supposed by Koenig to have occurred in several cases of joint tuberculosis, where at autopsy no antecedent focus could be found. The usual infection route, however, is undoubtedly through the lymphatic glands, bronchial, mesenteric, or cervical, from which the bacilli find their way into the circulation individually or in small embolic masses, and travel through the blood-vessels until arrested by some obscure determining cause, perhaps a minute hemorrhage due to slight traumatism, or possibly a little defect in the loosely constructed vessel walls, which allows a mural implantation.

With these theories of causation, and with our general knowledge of the behavior of the tubercle bacillus in other tissues, we should expect to find the disease most prevalent among the ill-nourished children of the poor, living in localities where they would be exposed to tubercular infection, in overcrowded and unsanitary dwellings; and the facts bear out the deduction. A large proportion of such children are shown at autopsy to have glandular tuberculosis, even though no clinical manifestations may have existed. Moreover, a clear hereditary predisposition has been demonstrated in from 25 to 70 per cent of the cases of Pott's disease, the statistics of the different authors varying within those limits.

*Read before a joint meeting of the Chicago Medical and Chicago Orthopedic Societies, March 30, 1904.

The spine is subject to frequent strains, jars, and shocks during daily life, and a considerable number of sufferers from spondylitis give a history of some slight trauma shortly preceding the onset of the disease. The direct connection of such injury is very suggestive, but difficult of actual demonstration, though generally admitted. A severe injury is rarely followed by tuberculosis, possibly because the extensive reaction fails to afford a suitable soil for the development of a focus. A large percentage of cases deny any shock or trauma.

Both sexes are about equally represented, boys being slightly more numerous than girls. Age is a powerful factor, for 85 per cent of all cases begin in the first decade of life, and 50 per cent between the third and fifth years. No age is exempt, since cases are on record as young as two months and as old as seventy-seven years.

The disease is very common, and forms nearly half of all the various tubercular joint lesions. It has been recognized from time immemorial, and has been found in prehistoric skeletons. The original general specialist, Hippocrates, wrote a short monograph on the subject, but Percival Pott, in 1779, was the first to give an accurate description. The portion of the spine most frequently affected is stated by Taylor to be the cervical region, but many other observers consider the junction of the dorsal and lumbar regions to be the most vulnerable. When in the cervical or lumbar vertebræ the deformity is apt to be smaller and more successfully treated than when in the mid-dorsal region.

Two German physicists, Elster and Geitel, who have for years been engaged at Wolfenbuttel in research on cosmic electricity, have recently published, according to the *Journal of the American Medical Association,* their discovery that the air near the ground and the ground itself possess radioactive properties. They are especially marked in the mineral mud, fango, used for therapeutic purposes. By extraction with hydrochloric acid the scientists were able to isolate the elements to which the radioactivity is due, and by combining them with barium chloride were able to increase the radioactive properties to 160 times those of the substance whence they had been derived. The mixture behaved like some indifferent salt with which a little radium bromide had been incorporated. It is further announced from Denmark that cryolite, found in Greenland, is also a radioactive substance.

THE MEDICAL AGE.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

OLD AGE AND ITS PREVENTION.

The somewhat unreasonable objection to growing old which seems of general and universal prevalence tends to secure a willing ear for all those theories which are from time to time created for the satisfaction of those who do not yet desire to seek the bourne from whence no traveler returns. The discovery some time ago of an elixir of life by a modern physiologist excited a credulity which long involved to some extent the intellectual apparatus of its victims. Professor Metchnikoff has lately been accredited with the discovery of a new elixir of life. This, however, is doubtless but a reflected suggestion from some one who has been pondering over the professor's volume of essays, "Etudes sur la nature humaine." Metchnikoff, however, is said to have confided to various interviewers his belief that old age is a chronic disease and not in its nature incurable. This is probably overstated and does not exactly represent Metchnikoff's views; nevertheless this pathologist, as is well known, has put forth certain notions regarding old age which to some extent lend color to the popular representation of his opinions.

Metchnikoff began by availing himself of an old adage, "Man is as old as his arteries"—in other words, that sclerosis is the pathological feature of senile changes. This sclerosis comes about by subversion of the "noble" or specific cellular elements of a tissue by hypertrophied connective tissue. This invasion of the "noble" element occurs in every tissue—in the liver, in the kidney, in the brain—everywhere the inevitable conqueror has to be endured. The phagocytes, according to Metchnikoff, become the instruments of destruction. They feed upon the tissues they previously defended. They crowd around the tubules of the kidney and absorb them, leaving connective tissue in their place.

The whitening of the hair, the porosity of the bones, depend on a similar process which is almost identical with what goes on in chronic interstitial nephritis and general paralysis. This process, Metchnikoff believes, is pathological and not physiological.

The phagocytes for the course of a natural lifetime bravely contend with the microbes in the intestinal canal and elsewhere. They are overworked, for Strassburger says the human intestine in one day contains 128,000,000,000 microbes. Most of these haunt the large intestine, as might be expected. When the phagocytes can no longer contend, developing toxins complete the work of retrogression and the "noble" cells yield to the invading sclerosis. It has been suggested that this doctrine indicates a surgical treatment of old age. The large intestine is the reservoir of these billions of microbes. Why not do away with it; why not by a surgical expedient empty the small intestines into the outer world by a more direct route? Thus a man is enjoined to shorten his gut that his days may be long in the land.

Less imaginative than the remedial measures based on Metchnikoff's theories are the suggestions of Dr. Guthrie Rankin, in a recent article contributed to the *Practitioner*. To attain old age the following general principles are laid down: The patient must lead an absolutely quiet and uneventful life, curtail his business responsibilities, and avoid every form of dietetic excess. Where there is a tendency to gout, red meat, beef tea, and meat essences are best avoided, and the dietary should consist of farinaceous foods, white fish, chicken, game, and clear, thin soups. Wines and malt liquors are contraindicated, but a small quantity of fully matured and well diluted brandy or whiskey may be allowed with luncheon and dinner. Gentle exercise should be taken in the open air every day, and at least ten hours out of the twenty-four should be spent in bed. Rest on the sofa for an hour or more during the late afternoon is also to be recommended. Measures must be taken to provide for the daily evacuation of the bowels. The constitutional vigor will be promoted by the periodical administration of simple tonics, such as quinine, arsenic, strychnine, iron, or the mineral acids. To many of us unfortunately some of these recommendations are counsels of perfection which we cannot put in practice. But if we cannot all spend ten hours a day in bed or make it our custom ever of an afternoon to rest on the sofa, or live quietly and uneventfully in the country, we can at least lead a regular life free from unwholesome excitement, abstain from alcohol and tobacco, eat sparingly of nitrogenous food, limit our public and private ambitions, and do such work as we are able to do.

EDITORIAL NOTES.

Surgeons of the Old School.

In these latter days when the practice of surgery has developed such keen competition, it is refreshing to read the following in regard to two French surgeons, which we quote from an English contemporary: There are at least two very great surgeons who are indifferent to the advantages the operation may bring them. They are Professors Le Jard and Felizet, both just as disinterested lovers of science as Le Menestrier. One never meets them in society. They are satisfied to live plainly. Not to sacrifice their hospital work, they prefer not to have a large private practice. I am not acquainted with either, and what I know of them is through pupils who revere and admire them. Le Jard's faultlessly skilful hand is directed by a sensitive conscience. He bestows as much pains on an all but hopeless case as on one that might give fair promise of recovery. He has often thus succeeded in snatching patients from the very jaws of death. Wealthy persons know nothing about him, nor about Felizet, nor Le Menestrier, who is a physician. These men will probably retire from their hospital work with a little more—not much—than bread and cheese. They will not repine at this. To sink to the level of tradesmen clever in the art of self-advertisment would fill the old age of minds constituted like theirs with remorse.

The Next International Congress.

The number of complaints that followed the last International Medical Congress in regard to the difficulties encountered in obtaining lodging, traveling facilities, etc., has led the British National Committee to announce that steps will be taken to prevent any such repetition. This committee will establish headquarters in Libson shortly before the Congress meets to aid English delegates out of the petty annoyances one always has to expect at such times. A similar committee would be of great value to delegates from this country, very few of whom, in all probability, are familiar with the Portuguese language.

The Unclean Obstetric Bag.

The obstetric bag and how to keep it clean is a problem that has not as yet been satisfactorily solved. It is without doubt in the great majority of cases the weak point in the obstetric

defense of the woman in labor against the dangers of septic poisoning. Its evolution has certainly not kept pace with the progress of aseptic surgery. The ordinary bag, which with its contents has been in all sorts of dirty places, has no place in the modern lying-in room. To the one who will invent an obstetrical bag that can be easily sterilized much praise will have to be given, for it will be a distinct advance in the practice of midwifery.

Heredity in Cancer.

That cancer is hereditary is the generally accepted view of the profession in general. This, however, is refuted by the writer of a paper which recently appeared in the second volume of reports of the Cancer Research Laboratories of the Middlesex Hospital of England. This essay, which was entitled "Heredity in Cancer," was the result of the careful searching of the records of the hospital since 1746. From the records of this great number of cases the writer drew his conclusions that cancer is not hereditary. It will take considerable data to convince the medical profession that this disease is not transmitted from one generation to another.

The Sleeping Sickness Cured.

From Africa comes the intelligence that a remedy has been found for the "sleeping sickness," that strange malady which is causing such ravages among the natives of Uganda. The agent of the Colonial Society of the Upper Congo in a recent report has drawn attention to a native remedy which counteracts the sleeping sickness. It is an infusion of a species of wood called "iboga," very common in the Gaboon.

Phthisiophobia.

Of late years so much has been published in the newspapers and magazines in regard to the infectivity of consumption that many people seem to be in mortal fear of it at all times. Many silly regulations have been adopted in different communities, but the most asinine that has been brought to our notice is an ordinance passed by the city fathers of Altoona, Pa., forbidding barbers to shave consumptives.

ITEMS AND NOTES.

Dr. Carlos J. Finlay, chief sanitary officer of Cuba, reports health conditions excellent.

Chihuahua, Mexico, is to have new barracks and a military hospital to cost $190,000.

Degrees cum laude were awarded to five graduates of the Yale University Medical Department, June 27.

The American Electrotherapeutic Association will be held at the Inside Inn, St. Louis, September 13 to 16, 1904.

The mortality from tuberculosis was reduced in Berlin from 31 per 1000 inhabitants in 1876 to 19 per 1000 in 1901.

Professor Krehl, of Tübingen, has accepted the chair of medicine at Strassburg, left vacant by Naunyn's retirement.

The American Academy of Ophthalmology and Otolaryngology will meet in Denver, Col., August 24, 25, and 26, 1904.

The Institute Ortopedico Rizzoli of Bologna, Italy, offers a prize of $700 for the best work or the best discovery in the orthopedic field.

A branch of the Carnegie Institute at Washington has been opened at Cold Spring Harbor, Long Island. It was erected at a cost of $50,000.

The total number of deaths registered in Michigan for the month of May was 2937, corresponding to a death-rate of 13.9 per 1000 population.

Twenty-five of the three hundred physicians the government is preparing to send to the Isthmus of Panama will be chosen from civil life.

Robert Koch has resumed his work at the Berlin Institute for Infectious Diseases in the best of health, after an absence of nearly a year and a half.

The Indiana State Board of Health has decided that hereafter no one afflicted with tuberculosis may be employed to teach in the public schools of Indiana.

The Perkins Institute for the Blind of Boston will soon celebrate the birthday of its founder, Dr. Samuel G. Home, by a bazaar in aid of the work department for blind women.

The new hospital building of the St. Luke's Hospital in St. Louis was opened recently. The building occupies a plot of ground 475 x 350 feet, covering over half of a city block.

The Johns Hopkins Hospital will commence a systematic fight against tuberculosis. Ten thousand dollars of Phipps's donation will be used in building a dispensary, two stories, 30 by 35 feet.

Prof. Alfred Hegar, of Breslau, who is now in his seventy-fifth year, will at his own wish resign his chair on October 1. In recognition of his great services as a teacher and practitioner of obstetrics and gynecology, the distinction of Privy Councillor of the First Class, with the title of Excellency, will be conferred upon him.

The Imperial Russian Minister of Finance has just offered a prize of 50,000 rubles to the person or persons who will invent some way of making alcohol undrinkable. Pamphlets giving the exact requirements governing the competition have been printed in the French language and sent to the Russian consulates in foreign countries.

The legislatures of Massachusetts, Ohio, and New York have had bills submitted to them during the present session providing for the publication of the formulæ of all proprietary remedies sold within the confines of those States. Each bottle or packet must contain an exact statement of the ingredients of which the medicines are composed, and the relative quantities of each ingredient.

The American Society of Tropical Medicine was last month incorporated in Philadelphia. The officers are: President, Dr. Thomas H. Fenton, Philadelphia; vice-presidents, Dr. James Anders, Philadelphia, and Dr. I. G. Kinyon, Glenolden, Pa.; secretary, Dr. John M. Swan, Philadelphia; treasurer, Dr. Wharton Sinkler; council, Drs. R. G. Curtin, Judson Daland, Allen J. Smith, and W. M. L. Coplin.

The Austrian authorities, says an exchange, have appropriated a small fund to encourage and support physicians who may wish to take a practical postgraduate course in the means of

combating tuberculosis. The work is to be done at the sanitarium at Alland, where free board, lodging, and laboratory facilities are placed at their disposal. A special committee has the matter in charge and will guide the investigators and use the knowledge they gain for the general campaign against the disease, coöperating with the official boards of health.

THREE HUNDRED physicians will be needed in Panama to preserve the health of the workmen on the isthmus. This is the preliminary estimate made by Colonel W. C. Gorgas, the chief sanitary officer, who sailed from New York on Tuesday to assume charge of the sanitary works there. These physicians, it is expected, will be drawn from civilian ranks, though quite a number of government surgeons will have the higher posts.

DR. JOHN H. SIMON, health commissioner of St. Louis, is endeavoring, according to an exchange, to have all cases of consumption reported to the Board of Health, and secure to that body authority to supervise such cases. Dr. Simon's plan is to have each case recorded as soon as possible, and by the observation of certain rules, to be issued by the Health Department, obviate the dissemination of the disease. The houses will not be placarded as is done in the case of diphtheria, typhoid fever, etc., but persons sick with consumption are to be reported to the Health Department, and that body is to have a supervising control over the care of the patient.

THE Société d'Hygiene Francaise has issued a call for an international congress to study the present hygienic conditions of dwellings and to devise means for their amelioration. The investigations and discussions of the congress will cover dwelling-houses in city and country, laborers' cottages and tenements, hotels, lodging houses, schools, and the living quarters on steam and sailing vessels. The work of the congress will be distributed among six sections, embracing the subjects above mentioned. The membership fee is fixed at 20 francs ($4). Those intending to present communications to the congress should forward the manuscript to the secretary-general not later than September 1. The president of the congress is Dr. Janssen; secretary-general, Dr. F. Marie Davy, 7 Rue Brezin, Paris.

A NEW hospital to cost $150,000, and to be conducted entirely on business lines, is the plan of the physicians of the Chicago Polyclinic and Hospital. The building is to be erected at Oak Street and LaSalle Avenue, where ground with a frontage of

200 feet was purchased two years ago. These physicians will issue bonds for the amount needed, and they and their friends will purchase these bonds as a business investment. No endowments are sought, and there will be no mortgaging of house or ground. The hospital will be one of the best equipped in the country, with accommodations for about 150 patients. Plans for the building are in the hands of an architect, but as they are subject to change they will not be made public until definitely decided on. The Chicago Polyclinic and Hospital has been established for eighteen years, at 174 and 176 Chicago Avenue. Dr. Fernand Henrotin is president, Dr. R. D. McArthur vice-president, Dr. John H. Chew treasurer, and Dr. Malcolm L. Harris secretary. Dr. Nicholas Senn is one of the professors of surgery. If the new hospital should prove the success anticipated, another issue of $150,000 in bonds will be made after a few years and an addition built that will double its capacity.

Says an exchange: "During the ninety-four years of its existence the American Board has commissioned 137 physicians; 38 of these physicians were ordained men, and 20 of them were women. At the present time 15 of our 20 missions have one or more physicians on their staff, numbering in all 40, of whom 12 are also ordained men and 12 are women. By the latest enumeration there were connected with these several missions of the board 42 dispensaries and 29 hospitals, as follows: In Turkey, 8 dispensaries and 6 hospitals; in India and Ceylon, 16 dispensaries and 11 hospitals; in China, 10 dispensaries and 8 hospitals; in Africa, 7 dispensaries and 3 hospitals; and in Japan, 1 dispensary and a missionary physician in one hospital. By the last report there were a little over 250,000 patients treated in the previous year in these various institutions. This medical work is perhaps more nearly self-supporting than any branch of the missionary enterprise. For although the poor are treated in multitudes of cases without any charge, yet in other cases those who are able make payment either in the form of a fee, or of a gift out of gratitude for the good they have received. Many of these hospitals are entirely self-supporting, and some of them, like the one in Madura City, have been furnished with good buildings by the free offerings of natives, only a few of whom have as yet professed the Christian faith. The total cost of this branch of the missionary service to the American Board, aside from the salaries of the American physicians who are in charge, has been not far from $12,000 a year."

NEW PUBLICATIONS.

INTERNATIONAL CLINICS.

The new volume of International Clinics contains an unusual number of interesting papers. The Spread of Diseases by Insects, by Dr. C. F. Mason, deals with the mosquito and other suctorial enemies of the human race. The sleeping sickness, malarial hemoglobinuria, and various subjects connected with tropical climates find a place in the present number. There are four or five excellent articles on treatment, three in general medicine, five in surgery, one in pediatrics, and one in rhinology. This publication continues to maintain the high reputation it has established for thoroughness and excellence.

International Clinics. A Quarterly of Illustrated Clinical Lectures. By Leading Members of the Medical Profession. Vol. II, 14th Series. Philadelphia: J. B. Lippincott Company.

ELECTRO-DIAGNOSIS.

This work is one which will be found of great service to those members of the medical profession with whom electro-diagnosis is important. It concisely states the most important portions of current electrical theory and its applications to therapeutics. It is an attempt to win the interest of practitioners in this important but much neglected branch of medicine. The prominence given to diagnosis in the present manual is significant of the indefatigable spirit of the Teuton, to whom the volume owes its origin. The work of translation seems to have been accomplished with marked ability.

Electro-Diagnosis and Electro-therapeutics. A Guide for Practitioners and Students. By Dr. Toby Cohen, Berlin. Translated from the Second German Edition by Francis A. Scratchley, M.D. New York: Funk & Wagnalls Company, 1904.

THE MOTHER'S MANUAL.

This is one of those semimedical works which, written in a popular style, have the faculty of conveying much useful matter to the laity. This guide to the mothers will fully fulfil the purposes for which it was compiled, and will give the young mother an amount of information which will help her and her offspring to avoid many unhappy contingencies.

The Mother's Manual. By Emelyn Lincoln Coolidge, M.D. New York: A. C. Barnes & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Twine in Lieu of the Elastic Ligature in Performing Gastroenterostomy.

J. W. Maury at the recent meeting of the American Medical Association (*American Medicine,* June 18, 1904) presented the results of experimental work done in the surgical laboratory of Columbia University, New York. Two innovations were practiced: (1) The use of a triangular instead of a square stitch; (2) the utilization of twine instead of the elastic ligature. Findings at the laboratory have served to entirely corroborate McGraw's contention that if properly inserted the elastic ligature will invariably cut out. The specimens demonstrating this were made with a square stitch, and were demonstrated before the American Society of Clinical Surgery at its recent meeting in New York. For the past three months twine has been used in the place of the elastic ligature, and in thirteen consecutive cases proved successful. The specimens belonging to this series were exhibited. One of the best specimens shown was an enteroenterostomy produced in a pig by the quadrangular elastic stitch. The advantage of the triangular stitch over the square lies in the fact that it gives the operator the ability to increase the size of the opening which he desires to make in two dimensions instead of one, as is the case with the McGraw stitch. If it be true that the twine will cut out as freely as the elastic, its advantages over the latter are manifest: (1) It is always at hand; (2) it does not deteriorate as does the elastic with age. Furthermore, the ease in passing it is such that it is unnecessary to have any special needle to facilitate its employment. Any large needle will carry twine. Twine cuts through in dogs, if applied in this triangular fashion, in less than three and a half days, or about the same rate as the elastic ligature.

The technique of the insertion of the elastic stitch was shown in detail from a diagram made by Robert F. Weir. Like any similar technique it requires a few moments of study in order to acquaint oneself with the details, but when these are once understood they will not be readily forgotten. The twine

triangular stitch can be put in place in less than 1½ minutes. Like every other device of similar nature, it should be encircled with a protecting layer of Lembert stitches.

Effects of Smokeless Powder on the Skin.

D. Johnson (*Annals of Surgery,* February, 1904) publishes the results of some experiments he has recently made with the object of determining the effects on the skin and the clothing of the discharge of pistols loaded with smokeless powder. The following conclusions are drawn from these experiments, which, however, are acknowledged by the author to be few in number and by no means complete: (1) The marks upon the skin and clothing produced by smokeless powder are much less distinct and definite than those caused by black powder. (2) With the weapons used in these experiments (Colt's automatic pistol, caliber 32 and 38; the Luger automatic pistol, caliber 7.65 mm.; the Mauser repeating pistol, caliber 7.63 mm.) such marks are no longer produced when the distance exceeds one foot and the shot is fired at the naked skin. (3) At a distance of three inches or less powder marks may be present, but they will always be faint and may in many instances be wiped away from the skin with a wet or dry cloth. (4) If the pistol be discharged at a part of the body covered by clothing no powder marks at all will be found on the skin. The clothing will never be scorched, no matter how near the weapon is held. If the clothing be of wool no powder marks are likely to be detected upon it even at the closest range unless under the microscope. If the clothing be of linen a faint mark may be found on it if the weapon is discharged at a distance of three or four inches or less. If the distance much exceeds this no mark would be produced.

How and When Shall We Operate for Prostatic Hypertrophy?

Willy Meyer (*Medical Record,* June 25, 1904) says that in view of the advanced status of prostatic surgery the catheter should no longer be advised as a routine measure in the surgical treatment of the disease under consideration. Operative intervention should be urged as soon as the time for the regular use of the catheter has come.

Prostatectomy, being the most radical as well as the most

surgical procedure, commands the first place in the treatment of the hypertrophied prostate gland, especially since the technique has been perfected to such a point as to render the operation a comparatively safe one, the mortality having been shown to be less than five per cent.

The perineal route seems preferable to the suprapubic, for the reason that it enables the surgeon to do the operation more under the guidance of his eyes.

The choice of route in the average case will probably hinge on the question of preservation of sexual power, provided this point is of importance to the patient.

The patient's age, as such, does not furnish a contraindication to operation; it is his general condition merely that has to be taken into consideration.

Where the effects of general anesthesia are feared, spinal anesthesia is indicated.

If the operation with the knife be refused or contraindicated, Bottini's operation should be advised, since it, too, yields excellent results.

Thus we have two useful methods of operation for prostatic hypertrophy, viz., prostatectomy by the perineal or suprapubic route, and Bottini's operation, each holding its own place, and one complementing the other.

A Strange Result of Iodoform Dressing.

H. McNaughton Jones (*Medical Press and Circular,* Feb. 24, 1904) reports the following case: The patient, a woman of thirty, had recently undergone an abdominal operation. The course was favorable until the third day after the operation. Irritation and some smarting in the neighborhood of the wound was then complained of. The wound had been stitched with celloidin-zwirn, a pad of moist sterilized 10-per-cent iodoform gauze being placed over it covered with coeletin. On raising the dressing the nurse found some slight swelling and redness along the area of the incision. The irritation increased, and the next day the iodoform was removed and the wound lightly sponged over with some weak formalin solution, dried and dusted with dermatol, covered with plain sterilized gauze, and protected with coeletin. The distress continued, and the next day several large vesicles appeared. The arms and hands now became involved, later the legs. There were no constitutional symptoms. The skin healed by first intention. It was learned that many years before the

patient had had an ulcer on the leg. This had been dressed with iodoform, with much the same results as in the present instance. From her childhood the patient had suffered from an eczematous tendency.

Etiology of Neoplasms.

Kelling (*Münch. med. Wochenschrift,* No. 24, 1904) attempts to add to the theory that malignant neoplasms are composed of cells which are strange to the body. He supports this with experiments in which he inoculated animals with rubbed-up chicken embryos. In a hunting dog that had been inoculated with this material into the testicle a tumor the size of a walnut developed after thirteen weeks. Microscopical examination showed it to be a round-celled sarcoma; in the liver a small nodule resembling a malignant adenoma was found. That the cancer cells are different in their albuminous reaction from the normal cells of the animal in which it is found is also shown by the biologic reaction of precipitin formation. In two cases of carcinoma of the pylorus the serum of egg albumen failed to give a reaction.

Chronic Pyemia.

Jordon (*Münch. med. Wochenschrift,* No. 2, 1904) records his observations in a case of acute pyemia with furuncles which pursued a chronic course for two years. The metastases appeared at long intervals and did not affect the general condition of the patient. Later on abscesses formed in the kidney, which resulted in a chronic pyemia; this led to an affection of the cord, which later on was the cause of death.

Exploratory Puncture of the Skull.

D. Neisser (*Lancet,* June 4, 1904) reports that he has performed exploratory puncture of the skull in cases of patients showing symptoms of marked cerebral pressure where the position and nature of the anatomical lesion could not be ascertained with sufficient accuracy to justify a surgical operation. He uses for that purpose a very small trephine, and introduces into the aperture a syringe provided with a blunt-ended cannula. In some cases the lesion is localized in this way; in others a direct remedial action is observed. The grave symptoms at

once disappeared in the case of an old extradural hematoma, in hemorrhagic pachymeningitis, and in a cyst of the cerebellum. In the last mentioned case the operation of puncture had to be repeated several times in order to keep up the beneficial effect. The patients on whom the operation had been performed were shown, and were evidently in good health.

MEDICINE.

Yellow Fever in Texas.

G. M. Guiteras (*Journal of the American Medical Association,* July 9, 1904) in discussing the epidemic of yellow fever that occurred last year at Laredo, Texas, says the results obtained through the efforts to combat the yellow fever epidemic at Laredo go to demonstrate that the mosquito (*Stegomyia fasciata*) is the only means of transmitting yellow fever, and that the efforts to destroy the same were productive of much good, greatly limiting the number of cases.

The measures taken to prevent the reproduction of the *Stegomyia fasciata* or other mosquito, by oiling all water containers and deposits of stagnant water, were completely successful.

It was demonstrated that to control an epidemic of yellow fever which has gained considerable headway (and such is the condition usually met with) it is necessary to have absolute power to enforce sanitary measures until such time as the people are educated up to the importance of such measures.

Inasmuch as the *Stegomyia fasciata* can only become infected by biting the patient during the first three days of the disease, it is of vital importance that cases of fever be reported at the earliest possible moment, so that they may be screened and the mosquito prevented from biting them. Such being the case, an efficient system of inspection is necessary, especially when there is a tendency to hide cases.

It is impossible to obtain good results without a mosquito-proof yellow fever hospital.

The difficulties of handling an epidemic are increased when such outbreak occurs on the frontier. Arrangements should therefore be entered into by treaty with contiguous foreign countries, so that under such circumstances sanitary measures may be carried out jointly by the countries interested for mutual protection.

Insistent and continued efforts should be made through the public press and other available means to educate the people within the sphere of influence of the *Stegomyia fasciata,* so that they will learn to protect themselves against the invasion or spread of yellow fever among them by destroying the means for the propagation of said mosquito, and by protecting themselves against the mosquito by efficient screening.

THE REACTION OF PROTOPLASM IN RELATION TO CHEMOTAXIS.

J. O. Wakelin Barratt (*British Medical Journal,* June 18, 1904) says that exposure of paramœcia to acids or alkalies of concentration sufficient to kill in twenty to thirty minutes does not affect the staining reaction of the organisms.

Prolonged exposure of paramœcia to acids or alkalies of higher concentration causes the well known appearance of "accentuation" of basic and acid staining respectively, but this is a change affecting the protoplasm after death and therefore of a different order from that occurring in relation to chemotactic phenomena.

Paramœcia killed by the constant current resemble paramœcia killed by acids and alkalies of minimum lethal concentration, in respect of the absence of any alteration of staining reaction.

The chemical reaction of the protoplasma of paramœcia cannot be determined by means of indicators in respect of a concentration of H and OH ions, which is less than 0.001 N. Within this limit the protoplasm, living or dead, gives no evidence of acid or alkaline reaction. The protoplasm of paramœcia killed by mineral acids or by alkalies of low concentration gives no evidence of acid or alkaline reaction with methyl orange or phenolphthalein.

Paramœcia killed by the constant current do not exhibit any acid or alkaline reaction.

THE SYSTEMATIC VALUE OF RADICAL CHANGE IN DIET.

R. H. Chittenden (*American Medicine,* July 2, 1904) says the part played by the liver cells in the transformation of the metabolic end-products into the urea is made manifest when the portal vein is anastomosed with some other vein going to the heart. The amount of proteids ingested influences the proteid catabolism. From the experiments he has performed he is convinced that unnecessary amounts of proteids are ordinarily

ingested, and that with a diminished ingestion of proteids, after the economy has adapted itself, the body weight is maintained and the physical strength increased. Only such amounts of proteids are necessary as will maintain the physical and mental vigor; anything above that amount will only add to the work of the excretory organ, to which organ it is detrimental. Chittenden thinks the amount would be decreased a third, and in some cases half, of that usually ingested. The amount of purins produced diminishes with the amount of proteids ingested. He says the methods by which uric acid is produced are still unknown. It would be impossible to define the amount of proteid for all individuals. Each individual is a law unto himself, and he must govern the amount according to that law.

Rupture of Mesenteric Glands During Typhoid Fever Simulating Intestinal Perforation—Report of a Case.

Robert Le Conte (*American Medicine,* June 18, 1904) in looking through the literature has found only one case reported in which rupture of mesenteric glands has given rise to trouble such as reported. Slight intestinal lesions may be accompanied by great glandular involvement. The condition is evidently a rare one, for this is the first case of the kind that he has observed in the Pennsylvania Hospital, where 1958 cases have occurred in three years. In the case reported, the patient was admitted to the hospital on the eighth day of the disease. On the thirty-third day he was taken with severe, sudden abdominal pains with distention. There was also pain and distention the following day, with the other usual symptoms of intestinal perforation. At the operation an ileocolic gland was found to be broken down; it was curetted, packed with gauze, and recovery followed. Two other cases of this kind were reported, one operated upon by H. Deaver, and the other by Munro, both of whom died.

Tuberculosis.

P. Heuppe (*British Medical Journal,* June 18, 1904) regards human and bovine tubercle bacilli as belonging to the same species, and explains their differences as modifications brought about by adaptation to their environment within their respective hosts. In dealing with the channels of human infection he cites

experiments which show that it is not possible to draw a hard-and-fast distinction between inhalation or pulmonary tuberculosis. "If we infect animals by nutrition we need not get a primary tuberculosis of the intestines—we may get a primary tuberculosis of the lungs; and if we infect by inhalation we can get a primary tuberculosis of intestines." In agreement with Behring and in opposition to Koch he regards infection by nutrition as a serious danger, not merely to children, but also as responsible for lung infection in adults.

Body Fluids in Disease.

Homberger (*Berliner klin. Wochenschrift,* No. 25, 1904) calls attention to the fact that during fever the blood retains its osmotic equilibrium, although the temperature is increased and the molecules also. This naturally deprives the tissues of a large amount of fluid. The more water taken from the tissues the greater the cell activity, the metabolism being proportionately increased. The body is therefore active in preventing the loss of water by decreasing the sweat and urine. On account of this the febrile patient should receive large quantities of water either per os or per rectum or by infusion, thus relieving the pathologic tension in the cell, reducing the metabolism, and favoring the elimination of the toxic albuminous molecules in the blood by the kidneys.

Effect of the Special Senses on the Pulse.

Heitler (*Centralblatt f. innere Med.,* No. 16, 1904) finds that intense sounds produce an increase in the height of the pulse curve followed by a period of depression of equal duration. High-pitched sounds stimulate the pulse more than those of low pitch. The smelling of vinegar and camphorated oil increases the pulse, whilst turpentine, benzine, and amyl alcohol tend to make it smaller. The effect of taste on the pulse is evidenced by the fact that sugar and salt increase tension, whilst vinegar and quinine depress it.

Virulence of Pathogenic Organisms in Water.

Konradi (*Centralblatt für Bakteriologie,* Bd. 36, No. 2) finds that anthrax, staphylococcus aureus, and typhoid will remain virulent after the ordinary water bacteria have been destroyed, and attributes to this fact the numerous epidemics

of typhoid fever occurring long after the infection of the water. The demonstration of pathogenic organisms in water is difficult on account of the changes in their biologic peculiarities. The cause of death of pathogenic organisms in water is due to a degeneration in their protoplasm. It is remarkable that the staphylococcus aureus will retain its virulence longer in ordinary drinking-water than in sterile water.

Examination of the Motor Capacity of the Stomach.

Elsner (*Berliner klin. Wochenschrift,* No. 25, 1904) in determining the motor sufficiency of the stomach ascertains the total amount of the stomach contents as well as the solid substances in it. In cases of achlorhydria the amount of solid residue may be considered as an indicator of the motor power of the stomach. In those instances in which the solid substances are in excess there may be considered to be a motor incapacity of this organ.

THERAPEUTICS.

Radium and its Therapeutic Possibilities.

W. Allen Pusey (*Journal of the American Medical Association,* July 16, 1904) says that radium produces effects upon the tissues closely analogous to if not identical with those produced by *x*-rays. The indications accordingly for its therapeutic uses are along the same lines as those for *x*-rays, viz., in certain inflammatory diseases of the skin, like eczema, psoriasis, lupus erythematosus, and lichen planus; in certain bacterial diseases of the skin, like acne, sycosis, lupus vulgaris, and blastomycosis; in certain diseases where we wish to cause destruction of tissues of low resistance, as in lupus vulgaris, carcinoma, and sarcoma.

These are exactly the indications for the therapeutic use of *x*-rays, and future experience alone can determine which of the two agents will prove of the greatest practical value in meeting these indications. In some respects the writer believes radium will prove superior; in the far greater number it seems to him that the *x*-rays will have the larger field of usefulness. In the treatment of lupus and cutaneous carcinoma we have sufficient experience to give us a fairly accurate technique in the use of radium. For its use in affections other than those which are sharply circumscribed to small areas, the technique has not yet been developed.

It is probable that Becquerel rays will be efficient only to a very limited depth. This conclusion is based, first, on the fact that the greatest effect on the tissues is produced by the B-rays, which have a relatively slight penetration, and secondly, on the studies made by Halkin on the effect of radium on tissues. On account of lack of depth of effect it is not likely that radium will be as effective as *x*-rays against lesions of more than half an inch in thickness or subcutaneous in situation. Becquerel rays have theoretical advantages over *x*-rays in the accuracy of dosage which will be possible after we have obtained experience in their use. They also have advantages in their ease of application at inaccessible points. They have a disadvantage in the relatively small quantity of energy available, and in the limitation accordingly of any single efficient exposure to a very small area.

It is highly improbable that the use of radium is going to be of epoch-making importance in therapeutics. It supplements and it may add materially to the methods now at our command for using actinic radiant energy in therapeutics. If it becomes less expensive and obtainable in relatively larger quantities, it may supplant to a limited extent the use of *x*-rays and ultraviolet light, although in the author's opinion this is not probable. At the present time it is not an entire substitute for either of them, and is to a very great degree less efficient than *x*-rays in its general therapeutic usefulness.

Massage of the Heart for Chloroform Collapse.

W. W. Keen (*Medical Record,* July 2, 1904) states that on only three occasions has he had a patient die on the table. The first two were cases of operations on the brain and goitre respectively. Hemorrhage was the cause of death in both cases, all the usual means being unavailing. The third case was especially interesting for several reasons. The patient had previously had a fracture of the skull, from which he had entirely recovered. He later suffered from squamous epithelioma of the vocal cords. At the first operation unilateral laryngectomy was performed, partly under local anesthesia and partly under chloroform. The latter produced marked cyanosis. At the second operation total laryngectomy was performed. Chloroform and oxygen were given to the patient, but not until he was upon the operating table. When enough chloroform was given to keep him quiet he became so cyanosed as to make the writer very anxious for his life. Just

as the wound was ready to be closed his pulse suddenly failed and his face became suddenly blue. The operation and the administration of chloroform were immediately stopped. Strychnine was given hypodermically, pure oxygen was administered, and artificial respiration was instituted, with rhythmical traction on the tongue. The battery was applied over the phrenic, but in spite of all this treatment his heart continued to beat much faster and weaker; he became more cyanotic, and in two or three minutes he was dead. After continuing the above means for about ten minutes, as a last resort the upper abdomen was opened, and the writer introduced his hand into the abdominal cavity, and between this hand and the right hand, which made counter-pressure on the anterior wall of the chest, the heart was masséd. These efforts were continued for nearly half an hour, but without avail.

The writer then reports a case which came under Igelsrud's care. The operation was that of abdominal hysterectomy. There was chloroform collapse. The writer laid bare the heart by a resection of parts of the fourth and fifth ribs. The pericardium was opened and the heart seized between the thumb and fore and middle fingers on the anterior and posterior surfaces. Strong and rhythmical pressure was made for about one minute, when the heart began to pulsate of itself, but as the pulsations became weaker, massage of the heart was practiced for about one minute more. From that time the pulse was perceptible, and the contractions of the heart became regular. The patient recovered.

The writer gives an interesting résumé of work by various authorities on this subject.

Treatment of Skin Tuberculosis.

M. B. Hartzell (*American Medicine,* July 2, 1904) says the constitutional treatment of tuberculosis of the skin differs in no respect from that of tuberculosis of other tissues. The patient should have an abundance of fresh air, and to insure this he should pass a large part of his time outdoors. He should have a superabundance of highly nutritious, easily digested food; eggs and milk should form a large part of his diet. If it does not interfere with digestion, he should take cod-liver oil; and the pure oil is far superior to any mixture, both as to palatability and therapeutic effect.

In lupus vulgaris two local remedies are of especial value, viz., concentrated light employed after the method of Finsen,

and the Roentgen ray. Although it is but a short time since the introduction of these agents, the evidence of their great usefulness is already overwhelming. The Finsen light is preferable when the area of disease is moderate in extent, but the length of time required for the exposures almost prohibits its use in very extensive cases. The Roentgen ray acts much more rapidly than light, and a much larger surface may be treated at each sitting; it is therefore preferable in cases in which large areas are involved. When there is but a single patch of disease, of moderate extent, favorably situated, complete excision with the subsequent transplantation of a flap of sound skin is the most speedy method of treatment.

In verrucose tuberculosis, curettement followed by cauterization with caustic potash, or the application of a strong pyrogallol plaster, is usually followed by very satisfactory results. If the patient objects to the scraping and cauterization, the Roentgen ray may be successfully employed.

Lichen scrofulosorum responds promptly to treatment with cod-liver oil given internally and applied locally. Crocker finds that inunctions with vaselin are quite as effective as the cod-liver oil, and much less disagreeable.

Scrofulous ulcers should be made and kept as nearly aseptic as possible, and some stimulating ointment, preferably some one of the mercurial ointments, applied twice or three times a day. The application of dry powder of iodoform, europhen, aristol, or other iodine compound is frequently of decided value.

The Result of X-ray Treatment.

S. B. Childs (*New York Medical Journal*, July 2, 1904) says that the therapeutic field of greatest usefulness of the *x*-ray is in superficial eptheliomata, rodent ulcer, and lupus vulgaris, when the area involved is conspicuous, as on the face or neck, and where a cosmetic result is particularly to be desired.

Healing by the *x*-ray leaves the smallest and most perceptible scar; for when properly applied it destroys only diseased tissue, and particularly commends itself for use in those localities where it is undesirable to sacrifice the surrounding tissues.

The *x*-ray is very efficacious in many obstinate cases, which have resisted the ordinary methods of treatment, such as acne rosacea, chronic localized patches of eczema and psoriasis, lupus erythematosus, and kindred skin diseases.

The results in tuberculous glands, when no suppurating

focus is present, are encouraging, and the enlarged masses of glands in Hodgkin's disease appear to be susceptible to the treatment.

The *x*-ray should not be employed in any operable, deep, malignant growth, with two exceptions: First, as pointed out by Coley, where a surgical operation would sacrifice an extremity, and even in this case the value of the *x*-ray is uncertain, and is determined by a few weeks' trial; secondly, as mentioned by Pusey, with a view to limiting the operation by checking the growth, when immediate operation is inadvisable.

The *x*-ray may be of service even in inoperable malignant growths, by relieving pain, diminishing discharges, and lessening their offensiveness, and in many cases life may be prolonged in comparative comfort for a considerable period of time. Furthermore, from these apparently hopeless cases a number of remarkable improvements and a few recoveries have been reported.

The *x*-ray should be used as a prophylactic against return of all operations for the removal of deep malignant growths.

The area of exposure should be wide, and the intensity and quality of the rays should be adapted to each case.

Treatment of Laryngeal Tuberculosis by Reflected Sunlight.

Sorgo (*Wiener klin. Wochenschrift,* No. 1) tried the effect of sunlight on tuberculosis of the larynx by using a mirror which reflected the sunlight into the larynx. At the commencement of the treatment the patient was subjected to the light at noon for one-quarter to one hour, and then taught to use the laryngoscope himself. This treatment was kept up for thirty-two days. The tubercular process was very beneficially influenced. In order to improve on this method the writer believes that the rays should be cooled and that the mucous membrane should be blanched with adrenalin.

Diagnosis and Treatment of Internal Hemorrhoids.

H. A. Bray (*Medical News,* July 2, 1904) says that in the treatment of this affection it is important in the first place to determine whether the disease is primary or secondary to some affection of the pelvic organs. In the first stage of hemorrhoidal

disease no operative treatment is indicated. The true value of the non-operative treatment is frequently underestimated in the second stage of hemorrhoidal disease. None but operative treatment should be resorted to in the third stage of hemorrhoidal disease.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Perineal Zoster.

A herpetic eruption rarely occurs, says Dr. Cushing (*Johns Hopkins Hospital Bulletin,* May, 1904), over the sacral areas. According to Head's tabulation of 378 cases, in seven instances only did the eruption have a sacral distribution, the lowest segment of which mention is made in his paper being the third sacral.

Twice in Dr. Cushing's series of cases of trigeminal neurectomy has the operation been followed by an outcrop of herpes. In the first the distribution of the vesicles on the perineum was taken to represent a lesion of the fourth sacral posterior root ganglion. There was an accompanying vesiculation of the herpes febrilis type on the non-anesthetic side of the face. In the second case sensory symptoms, such as are the frequent precursors of herpes zoster, appeared after the operation, having a bilateral distribution similar to that in the first case. The symptoms were interpreted as indicating a lesion of the posterior root ganglion, which did not suffice to cause vesiculation; herpes zoster without eruption, as described by James Mackenzie. This perineal disturbance was accompanied, as in the first case, by a quite extensive facial herpes, which again failed to encroach upon the skin field rendered anesthetic by the ganglion extirpation.

The pathology of herpes facialis seu febrilis has been the occasion of dispute. Many have thought the lesion to be quite distinct from that which produces true herpes zoster. Howard, however, has found lesions in the Gasserian ganglion in a case of common facial herpes accompanying pneumonia. This observation, together with those above cited, that after Gasserian ganglion extirpation a herpetic eruption does not occur over the resultant anesthetic field, suffices to render it most probable that posterior root ganglion lesions are responsible for the common forms of herpes about the lips and nose as well as for zoster.

The perineal eruption in the first case and the hyperesthetic area in case two with a similar distribution allow of certain generalizations as to the cutaneous skin fields of the lower sacral segments. In the ordinary diagrams with the subject in the erect posture the lower (fourth and fifth) sacral fields are completely hidden. It is necessary to put the body and lower extremities in the embryonal position in order to understand clearly the configuration of the skin fields below the second sacral, this being the lowest to enter completely into a leg distribution. The coccygeal, fifth, fourth, and third sacral areas surround the caudal end of the body in concentric fashion, the strips running from mid-dorsum to mid-venter just as do the thoracic and abdominal skin fields, and like these retain in large measure their simple, primitive, and undistorted arrangement.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Ovarian Grafting.

D. Morris (*American Journal of Obstetrics,* May, 1904) says that though when an ovary is removed from one animal and transplanted into another animal of the same kind from which the ovaries have been removed, the tendency is for the grafted ovary to undergo a degenerative process, it may for several months furnish ova and internal secretion, but at the end of the year it will undergo fatty degeneration; but when ovaries are removed from an animal, and then replaced at some point near to, or even at a distance from, their original site, the tendency is for the ovary to continue its functions of developing ova and of furnishing its internal secretion. In cases of pyosalpinx, therefore, in which it is necessary to remove the ovaries and tubes *en masse,* part of a fairly good ovary can be placed in warm saline solution until the rest of the work is completed, and can then be grafted partly beneath the peritoneum and near its original site before closing the abdomen. The segment of ovary is inserted through a slit in the peritoneum in such a way that the raw surface of the ovary is subperitoneal, where it can be nourished by the lymph circulation until new capillaries can

be formed for its support. Part of the normal periphery of the ovary is allowed to protrude into the peritoneal cavity, so that the ova may escape.

The Blunt Hook.

E. H. Root (*Women's Medical Journal,* May, 1904) considers that the ill-repute into which this instrument has fallen is not deserved, and that when properly used it forms a most valuable aid to the obstetrician. The chief source of difficulty in the past has been the improper design of the instruments used. The author's modified instrument is largely the result of improvements by Kustner, and differs from the conventional type in the thickness of the hook, which has a diameter of one centimeter; a length of only twenty-eight centimeters, to prevent attempts at its use in improper cases with the breech out of reach; a pelvic curve, and a convenient handle. The chief point of the author's communication is his insistence on the necessity of applying the hook to the posterior thigh. This is always hard to reach and makes the operation a difficult one, but it is this hip that is causing the delay in delivery, and the reports of authors show that when applied to the anterior hip the delivery is always a protracted and difficult one, whereas when the hook is once in place over the posterior hip the remainder of the extraction is very rapid and easy. With the author's instrument the maternal mortality has been 0, that of the children also 0, with one fracture of the femur in twenty-six cases.

Examination of the Bladder in Ventral Suspension.

S. Chandler (*New York Medical Journal,* May 28, 1904) says that in all cases requiring ventral suspension the bladder should be thoroughly examined by a cystoscope. The new position of the bladder after ventral suspension aids and relieves rather than causes frequent micturition. The said operation may cause this relief by removing pressure from the neck of the bladder, which pressure undoubtedly helps to cause frequent micturition. The left ureter opening and surrounding parts are often affected, but the cases are too few to state positively why this exists in these cases. Immediate and prompt treatment saves much suffering and adds much to the surgeon's reputation, and to that of the operation. By examining the bladder and sur-

rounding parts we may find cases in which suffering may be relieved, when for some reason an operation for uterine disease cannot be performed. To make such examination eliminates errors, and is more scientific; and the more exact we become, the firmer ground we tread.

Vomiting of Pregnancy.

D. Ochlschlager (*Annals of Gynecology and Pediatry*, June, 1904) considers this condition, which is so often serious, as due to a continuous gastric secretion. This secretion is usually very acid, and often sufficiently so to irritate the esophagus. In an experience gained in a practice of more than fifty years he has found in the last few years that tinct. strych. with sodium bicarb. is almost a specific in the vomiting of pregnancy. He recommends the following recipe:

Sodium bicarb.	8
Tinct. strych.	3
Aqua dest.	150
Syr. cinnam.	30

M. et Sig.: Tablespoonful every two or three hours.

He admits that it may have been only his good fortune to have had the above preparation prove invariably successful.

Bathing During the Menstrual Period.

At the recent meeting of the American Gynecological Society J. C. Edgar presented the following conclusions on this subject: (1) All forms of bathing during the menstrual period are largely a matter of habit, and usually can be acquired by cautious and gentle progression; but not for every woman does this hold good, and surf bathing where the body surface remains chilled for some time should always be excepted. (2) A daily tepid sponge bath (85° to 92° F.) during the menstrual period is not only a harmless proceeding but is demanded by the rules of hygiene. (3) In the majority of, if not all, women tepid (85° to 92° F.) sponge bathing after the establishment of the menstrual flow, namely, second or third day, is a perfectly safe practice. (4) Furthermore, in most women the habit of using the tepid shower or tub bath after the first day or two of the flow can with safety be acquired.

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ORIGINAL CONTRIBUTIONS.

CHRONIC LARYNGITIS AS TREATED BY THE GENERAL PRACTITIONER.

BY J. T. PRATT, M.D.

It must be borne in mind that in chronic ailments constitutional conditions are often of paramount importance; often only treatment of the general health will be of any permanent relief to the local trouble, although local measures may have been persistently and intelligently tried. Neglect of such considerations has occasionally brought specialism into disrepute with the general practitioner. Particularly is this true in chronic laryngitis, which is sometimes associated with tuberculosis, whether of the lungs or of the larynx, while general anemia, gastric disturbances, mental anxiety, and, associated with these, frequent and exhausting discharges, may be largely responsible for the local trouble. No region of the body exists where the mischief of inconsiderate specialism is better illustrated than in the larynx, and of all the diseases there encountered this applies to chronic laryngitis particularly. Of course local treatment is always necessary, nor is it of secondary importance; on the contrary, it is only in such cases where the power of nature is proving insufficient for the resolution of an inflammatory attack, which consequently is assuming a chronic character, that treatment becomes necessary; judicious handling in early cases of chronic laryngitis may be of the utmost importance to the patient's future. No line of demarcation can be drawn between a subacute and a chronic inflammation. In consequence we can make no sharp distinction between the remedies to be used in the one and in the other class of cases; for while a case that is only in the early stage of becoming chronic may be fairly amenable to treatment, an old-standing case with unmistakable hyperplasia must be

considered as incurable; although exacerbations occurring from time to time may be more or less successfully combated. Of course not every case of laryngitis extending over a long period of time is one of chronic inflammation; for certain individuals appear to be constantly contracting mild attacks of subacute laryngitis on slight exposure to cold, without there being any appreciable chronic trouble. These patients on sojourn in a suitable climate lose all their symptoms, remaining free for a time after their return to their homes. Again we have the affection frequently associated with vasomotor disturbance, which, rather than the inflammatory condition, is responsible for the patient's trouble. The treatment of chronic inflammation of the larynx in its earlier stages does not especially differ from that of the subacute affection, excepting that we may employ remedies of a greater strength; for example, in prescribing an inhalation of pine oil we can increase the proportion of the oil or change it to a remedy of greater potency, such as the oils of cubeb, eucalyptus, etc. In the chronic cases we must be prepared for the patient's statement that the remedy does him more harm than good; while in other similar cases we may be equally surprised at the patient's rapid improvement. In chronic laryngitis we must be guided rather by subjective symptoms than by the objective appearances; and, as a matter of practice, one seldom is acquainted with the progress the disease is making upon a laryngoscopic examination alone, it being essential that the patient advise us as to his improvement. Thus, should the patient state that the steam inhalation makes his throat worse, or that it fails to produce any appreciable benefit, we may have recourse to the inhalation of the essential oils without using steam; to accomplish this various forms of small tube have been invented. One made by Martindale, called the "ozonic inhaler," is half an inch in diameter and two inches in length, flattened to form a mouth-piece at one extremity and blown into a bulb at the other. In this bulb are packed some fine shavings, on which the medicament to be used is dropped; there is also a nose-piece, so that if desirable the inhalation may be made through the nose; two or three drops of oil of eucalyptus is placed upon the shavings, and the patient inhales the vapor for from two to five minutes, according to the tolerance of the individual; repeat this three or four times a day. This mode of inhalation is superior to the steam apparatus in that no special precautions need be observed, the patient carrying the instrument in the waistcoat-pocket and using it in the open air if he wishes. The theory that warmth and moisture are

essential for the conversion of the oxygen of these oils into ozone is not supported by the success attendant upon the method of inhaling the oils just described, though perhaps the warmth and moisture of the air-passages themselves are sufficient. Where there is no great tendency to drying of the mucous surface, and where more especially there are practical difficulties connected with those precautions, we may prescribe the dry inhaler with either of the pine oils or that of eucalyptus or terebene; we may add menthol or camphor according to fancy, or when some new method of stimulation appears desirable. We must be prepared for the patient's declaration that this form of inhalation aggravates his symptoms rather than benefits them; in which case the remedy should be changed or the method of application altered. A mucous membrane acutely sensitive to remedial applications as well as to slight changes of temperature, etc., is not infrequently associated with a chronic laryngitis; and such cases, although chiefly chronic in their aspect, are often more benefited by soothing applications; steam may be distasteful even when the vehicle is so soothing as "Friars' balsam." Here nothing is so beneficial as a spray of borax and glycerin, such as two grains of the former and five of the latter to the ounce of warm water. Where there is a tendency to dryness of the mucous surface, a similar quantity of chloride of sodium may be added; while in the passive form of slight congestion occurring in anemia, where the patient's troubles consist mainly of "voice-ache" with occasional slight hoarseness, and with only a very insignificant amount of mucus, which nevertheless from its tenacity demands considerable effort and constant clearing of the throat before it can be extruded and the voice cleared, here this spray is very efficacious in relieving symptoms, as pointed out by Macdonald. Where aching is the most prominent symptom, especially in excessive voice-users, such as clergymen, lecturers, and school teachers, the inhalation of benzoin is nearly always of great advantage.

Much structural alteration in the vocal cords or ventricular bands or interarytenoid fold often exists, in which cases direct the treatment largely by the intensity of the surface hyperemia rather than by the hyperplasia; for where there is intense congestion, consider the case as one of subacute laryngitis. In alcoholic laryngitis, which from its duration seems to be chronic, yet in which the whole laryngeal surface presents the intense redness of a subacute laryngitis, the case requires the most gentle care. Insure absolute rest to the inflamed surface, especially if

the margins of the cords or the interarytenoid fold are superficially ulcerated. Where the cough is troublesome, minute quantities of morphine may be insufflated into the larynx, unless some other trouble contraindicates its use, a state of affairs only too likely to exist; here codeine may be substituted in doses of an eighth or a quarter of a grain. For allaying excessive irritability of the larynx we find that preparations of cocaine are too transient to be of any real efficacy, while in all probability the temporary anemia produced by the drug is followed by intensified congestion and hyperesthesia. This frequently occurs; consequently cocaine has been almost completely discarded as a remedy, by those who study their results.

In chronic laryngitis where there is only little surface congestion, the more stimulating applications, such as solutions of the caustics and powerful astringents, are indicated. While the relief that these remedies afford is undoubted, yet it is probable that no case of hyperplasia is ever cured entirely. The application to the vocal cords of a solution of perchloride of iron, two drachms to the ounce, can not be considered as an astringent; here really this application acts solely as a powerful stimulant, thereby, perhaps owing to the increased secretion of mucus, improving for a time the mobility of the vocal cords. Painting will sometimes be required by such patients once a week or fortnight, indefinitely. Just as these cases often appear to present an improved voice whenever they have contracted a subacute laryngitis, so they are benefited by anything in the nature of an artificial stimulation inducing a hyperemia. Whether by pursuing such a line of treatment any permanent benefit is gained is a serious problem.

Gottstein uses nitrate of silver in solutions of ten to twenty grains, making the applications with a sponge, which, carrying a larger quantity of fluid, cannot easily be thrust into the laryngeal cavity, but squeezes out the solution at the upper opening; the brush, though containing less of the paint, can be applied with greater accuracy to the regions specially involved in the inflammatory process. The sponge is best inserted by a Bradis holder, which grips it firmly beyond all possibility of slipping. A fresh piece of sponge should be employed for every patient, or a single dip of either sponge or brush into the application is all that will be required; disinfect the brushes, clean and dry after each occasion. The average patient resents a first application to the interior of the larynx of any fluid, be it soothing or irritating; and occasionally, for a few seconds after the brush or sponge

has been withdrawn, there may be some apparently alarming spasm of the cords, with respiratory stridor; the patient becomes alarmed, and often needs reassuring words while the attack lasts; no agitation must be shown by the operator, for this naturally increases the patient's perturbation. Induce the patient to make an attempt at phonation; gently laying the hands on the patient's arms, instruct him to say a word or two, such as "one, two, three," accompanied by the assurance that he need not be alarmed; the attack will pass off as soon as he succeeds in emitting an audible word. Later the patient will evince less and less alarm, until after a few applications he is all right.

Insufflations into the larynx of dried powders are not so marked in their action and the distress is not so great; specially serviceable, in early stages of chronic laryngitis without hyperplasia, is a powder of very finely ground and freshly prepared "matico leaves;" it is a fine astringent, and less irritating than the ordinary catechu powder, which is commonly employed; half or one grain to be blown into the larynx with a proper insufflator daily or on alternate days, according to the effect produced. If a single application has increased the hyperemia to such an extent that it has not subsided in twenty-four hours, do not give a second powder until the following day. A good plan is to follow up the treatment by dry powders with the milder paints, gradually increasing these in strength until reaching the full limit; or use later dried and finely-ground alum, which is superior to either of the others in being entirely soluble and leaving no irritating particles.

The criticism of these applications is that they can be applied only by a physician; that consequently the patient is compelled to attend him, when the severity of the symptoms scarcely appears to justify it; but on the other hand, the objection to the patient's inhaling astringent sprays himself is, that by the very act of inhalation the vocal cords are abducted and withdrawn from the influence of the medicine; while in applying a paint or powder by means of a brush or insufflator, by directing the patient to speak at the moment of carrying the dry powder into the laryngeal cavity, the cords are approximated and receive the full benefit of the application. A spray can be inducted into the larynx by the patient himself only during the act of inhalation, which probably accounts for the ill success so often attending this treatment. Where the patient's frequent attendance is impossible, where also we desire to use astringents of such potency that the vocal cords are immediately approximated as soon as the solution reaches

the larynx, we may attain good results from the use of the powder-inhaler constructed for the purpose by Macdonald. "Here dried and finely-ground alum or other astringent powder, diluted or not according to the case, is placed in an ordinary wash-bottle of two or three ounces' capacity; two glass tubes of half an inch diameter transfix a tightly fitting caoutchouc stopper, the one descending to within half an inch of the bottom and the other only long enough to reach the interior, but having a convenient mouth-piece attached. On taking a rapid and deep inspiration through the latter, the air descending through the longer tube sets the powder flying, filling the interior of the bottle like a cloud, which straightway passes into the pharynx, larynx, and trachea. In this way the whole of the mucous surface is covered with a fine powder, one or at most two inspirations sufficing. Try this mode of application and the upper surface of the cords is not directly reached; but no doubt, as the powder is dissolved in the tracheal mucus, a considerable quantity passing upward by the ciliary action will gain access to the cords." As I wrote at the outset, constitutional treatment must not be omitted where there is any indication for it, which is nearly always the case; in the young the possibility of phthisis must be remembered, while in individuals past middle age the patient's habits, especially as regards alcohol, must be carefully ascertained. Chronic laryngitis is a not uncommon accompaniment of chronic renal or hepatic disease, or indeed of other affections the result of alcoholic excesses, while the patient's chief or perhaps only complaint may be confined to his throat. Apart from such grave constitutional troubles, much may be effected by the use of certain remedies in addition to local treatment; iodide of potassium sometimes proves of value if continued over a long period of time in small doses, especially where there is much catarrh. In anemia, arsenic undoubtedly is taken with great benefit, more especially if in small doses and long continued; similarly taken, the natural sulphuretted waters often prove of considerable use. As a substitute for these, Pouillet's sulphurous powders prove efficient; two grains of the powder in a tumberful of milk, sweetened or not, according to fancy, may be taken night and morning. The sulphides appear to be specially serviceable to patients who take cold upon unwarrantable provocation; administered at the beginning of an attack, they certainly mitigate the severity and lessen the duration. They have been recommended by the French. To prevent cold-taking and to tone up the mucous membrane apply cold compresses to the throat during the night; while in the

morning the neck, especially over the larynx, should be thoroughly rubbed with the hand so as to induce some detrition of the superficial epithelial layers. Then the neck should be douched or sponged with perfectly cold water. If there is much pain attending the laryngitis a cold compress is not always well borne, in which case hot water may be substituted, and the cold sponging omitted. Where the patient is a public speaker of any kind, whether preacher, lecturer or school teacher, the indisputable results attained by scientific training in voice-production must not be forgotten; the subjective symptoms of a chronic laryngitis which has resisted all attempts at medicinal treatment may succumb readily to a course of practical voice instruction; and this although the patient, on presenting himself for the purpose of assuring his medical adviser of the supposed improvement in his laryngitis, could actually afford no objective evidence of his relief. In other words, although the actual condition of hypertrophy and congestion might remain unchanged, yet, as the consequence of being instructed how to employ the voice with the minimum amount of effort, the patient can use his inflamed vocal cords without harm or discomfort. The long-continued use of the voice in a reasonable manner may make actual objective improvement; yet one is inevitably compelled to speak vaguely. The secrets of the success obtained by some voice-instructors, concerning whom as a class too much circumspection cannot be adopted, appear to be based upon instruction in correct methods of breathing and articulation; thus are lungs, tongue, lips, and teeth compelled to perform the major part of the work, while the laryngeal and pharyngeal muscles are allowed to rest themselves comparatively, with the result that the voice ceases to be "throaty" and laborious, becoming clear, incisive, and fatigueless. Use and rest of the voice in the treatment of laryngitis demands some space, for professional singers often want to know whether the vocal apparatus is in fit condition for singing; with the artist such considerations are reputation and the loss of money; here the patient may assert that he can sing if he may, although quite conscious that it is only with considerably more effort than he would feel justified in using without sanction. In an acute or subacute laryngitis there is no question that, however slight it may be, it is wiser to give the voice complete rest; yet probably the patient may sing with impunity, provided there is no appreciable congestion of the vocal cords; then the laryngologist is bound to discourage the use of the voice, for it is undoubtedly after such a disregard of common sense that so often

irremediable trouble results. Inspect the larynx after the voice has been used, so as to insure against the possibility of future trouble. In the case of chronic laryngitis the question assumes a different aspect; here rest is not always imperative or necessarily beneficial. Many patients know that moderate use is conducive to the healthy condition of an organ, in that the voice gives them far less trouble in use than after prolonged rest. Before advising unconditional rest in any case of chronic inflammation, it is wise to become acquainted with the subjective bearings and the patient's own past experience. In most cases of chronic laryngitis, where the margins of the cords are not materially affected, and where the actual effort required for the emission of sound is not inordinately exaggerated, a certain amount of use, especially if the voice is produced in a scientific manner, will be beneficial; but a subacute exacerbation of a chronic inflammation will demand physiological rest at judicious periods.

TUBERCULOUS SPONDYLITIS—DIAGNOSIS AND PROGNOSIS.*

BY JOHN L. PORTER, M.D., CHICAGO, ILL.

In the consideration of tuberculosis of any form, the matter of diagnosis is of first importance, and in no form of tuberculosis does an *early* diagnosis mean more to the patient than in tuberculosis of the spine. Until the diagnosis is made, efficient, intelligent treatment cannot be instituted; in fact, before the correct diagnosis is made, the treatment advised is usually some sort of exercises, which is the worst thing that could be done. But with an *early* diagnosis, not only is the treatment made more effective and the prognosis improved, but the patient may often be saved a distressing deformity which adds to an already crippled existence a burden of mental suffering and pain.

As the diagnosis of tuberculous spondylitis is usually made when the characteristic deformity has developed (though not always—much to our reproach!), I shall confine my discussion of this subject to the *early* diagnosis, for I believe that a diagnosis of spondylitis can and should be made in every case before any deformity has appeared, regardless of the age of the patient, and in *almost* every case sufficient additional evidence may be elicited to enable us to decide with reasonable certainty whether it is tuberculous or not.

*Read before a joint meeting of the Chicago Medical and Chicago Orthopedic Societies, March 30, 1904.

However, the latter point is of slight importance, as the early treatment for all forms of spondylitis is the same.

Although the early diagnosis of this disease must be made entirely upon the objective findings, and although these vary somewhat with the different portions of the spine involved, there is one sign which is *always* present, no matter where the disease is located—"it is the first sign to come and the last to go down when recovery takes place" (Ridlon), and is as pathognomonic of an inflamed or diseased joint as crepitus is of fracture, and is so easily demonstrated that it can frequently be observed before the patient is undressed. I mean the *muscular rigidity,* that involuntary muscular stiffness with which nature attempts to splint every inflamed joint, and which is generally so apparent that it almost cries out for recognition and relief, yet is frequently unnoticed. Stiffness and rigidity of the spinal muscles, limiting the normal freedom of motion, and producing involuntary muscular spasms when motion is attempted is, as I have said, the earliest, the most constant, and the most reliable sign of joint trouble anywhere. It is always present before deformity appears, and usually before pain is complained of, and when every practitioner has learned to recognize it, to examine for it, and to appreciate the significance of it, the total number of tuberculous deformities will be reduced at least one-half.

With this muscular rigidity are usually associated other signs and symptoms of the disease, and it is convenient to consider these briefly with relation to the different divisions of the spine.

In disease of the cervical spine there is usually present early a distorted position of the head. Generally the head is twisted to one side, as in torticollis, but it may be tipped directly forward, with the chin near the sternum, or backward, with the chin elevated, depending upon the situation of the focus of disease. But the peculiar and characteristic thing about it is that it is fixed. The patient can change it but very little; he turns his whole body to increase his range of vision, and often supports the chin in his hands or grasps his head when lying down or rising to prevent accidental motion. That simply means that the position is a part of this same muscular rigidity, and motion causes pain.

Pain, when it occurs, depends upon the situation of the disease. In upper cervical disease it is referred to the occiput and sides of the head, in the distribution of the occipital and auricular nerves. In the lower cervical involvement the pain is referred to the distribution of some part of the cervical plexus—in the neck, down the arms, or to the sternal area in front.

The *differential* diagnosis from torticollis—which is usually the only one required—is made on two points. Motion of the cervical spine in *all directions* is limited, while in torticollis all motions except those which pull upon the contracted sternomastoid muscle are free. In spondylitis the chin points *toward* the prominent sternomastoid, while in torticollis it points away from it. Generally, too, the patient promptly complains of pain on attempts at motion in spondylitis, while in torticollis such motion as is possible is painless.

In acute inflammatory or rheumatic torticollis, pain is located in the affected muscles, instead of at the distal ends of some nerve, as in spondylitis.

In cervical disease, too, there can sometimes be felt a distinct thickening or induration along the sides of the vertebræ, and the spine seems abnormally straight—the natural anterior curve being abolished.

Dorsal Disease.—With disease between the second and tenth dorsal vertebræ there are usually, beside the rigidity of the spine in this region, one or two other signs that suggest the location of the disease. First of these is a *peculiar, short, grunting respiration.* It is due to the attempt to limit the motion of the ribs, and is partly voluntary, but chiefly involuntary. The inspiration is quick, short and diaphragmatic; the breath is held for a moment, and then expired with a grunt or sigh.

Twenty-five years ago Dr. L. A. Sayre called attention to this, and said that if such a patient be laid prone across the observer's knees, with the arms hanging on one side, and the legs on the other, and then the knees were gradually separated, the breathing soon became longer and the patient more comfortable. That was because the traction gradually released the muscular spasm, and the sagging downward of the spine relieved the pressure on the diseased surfaces.

With disease in the upper dorsal region, the shoulders are often held stiffly squared, with the head thrown back, and as the patient walks it produces the so-called "military gait."

Pain in these dorsal cases is referred to the sides and front of the chest and abdomen. In young children a history of frequent stomach-ache or colic may be the chief complaint, and children are often treated for digestive disturbances for a long time before the real cause of the pain is discovered. Sometimes, too, the child cries out as if in severe pain, suddenly, when lifted. This is due to the motion imparted to the diseased vertebræ through the ribs or arms by the act.

Pain is most easily produced by flexion of the spine, so the patient squats down with knees bent, to reach anything on the floor or to tie his shoes, etc.

Lower Dorsal and Lumbar Disease.—One of the earliest signs of disease in this region is an exaggeration of the normal lumbar lordosis, combined with a peculiar, sliding, careful gait.

The lumbar spine is very mobile, participating in nearly every motion of the body, so with disease in this area pain is associated with almost every motion, and also with jars transmitted through the legs. Extension, however, is not painful, as it separates the diseased vertebral bodies, so the muscular contraction and rigidity tend to increase extension by increasing the lordosis. For these two reasons, pain and kyphosis do not develop as early in the lumbar as in the dorsal spine, but, for the same reasons, muscular rigidity can be much more easily observed.

A slight lateral deviation of the spine may often be seen in these lumbar cases before the typical angular deformity has developed.

The habit of squatting, spoken of above, is even more marked in lumbar than in dorsal disease. Contraction of the psoas muscle and flexion of the thigh is often seen in lower dorsal or lumbar disease. It is due to the irritation at the points of origin of the muscle, or to the presence of an abscess burrowing along the muscular sheath, and produces a shortening of the leg and a limp, simulating hip disease.

These cases may be easily differentiated from hip disease by completely flexing the thigh to relax the psoas contraction, when all motions at the hip *except* extension will be free, while in hip disease they will all be limited.

Patients with lumbar disease often prefer to stand rather than sit, as sitting reduces the lordosis and throws more weight forward upon the bodies of the vertebræ.

Pain may be referred to the groin, into the buttocks, down the outer side of the thighs or along the sciatic nerve.

I have under observation a young lady who was treated for over six months by two most excellent general practitioners for rheumatism and sciatica. Finally a slight lumbar lordosis was discovered and she was referred to me for that. Examination revealed a lumbar spine so rigid that she could not lace her shoes in any position, there was a small kyphosis developing in the lateral curve, and in spite of six months' treatment the sciatic pains still continued. She had a typical lumbar spondylitis.

Tuberculosis or other infections of the sacroiliac joint may

simulate spondylitis, but are more apt to be confounded with hip disease. The limitation to forward motion is not so great as in spondylitis, while that to lateral bending is marked. The patient always favors one side by standing on the leg of the non-affected side, so some lumbar scoliosis is common, but there is almost always pain on pressure over the synchondrosis, either externally or per rectum, and pressing together the two sides of the pelvis is almost invariably painful. Sacroiliac disease is rare in children, while spondylitis is frequent.

Besides these local signs I have mentioned and the universal muscular spasm, there are one or two general symptoms which are usually present very early. Probably the first indication of trouble, if it were carefully noted, is a persistent *change in the disposition of the patient.* He loses his animation and becomes quiet and subdued. No matter how active and playful he may have been, he no longer cares to romp and play.. He prefers to sit down or keep still, often in some peculiar position, that either supports or immobilizes the spine. The mother often notices this change in a child before he complains of pain, and it is probably coincident with the appearance of muscular rigidity.

Another symptom that is often noticed early is *night cries.* It does not accompany spondylitis quite so frequently as hip disease, I believe, but when it does occur it is a sure sign of joint trouble somewhere. It is due to the sudden relaxation of the muscular rigidity that has been on guard all day. As the child goes to sleep, the tense muscles relax, there is slight motion of the affected joint, and the pain causes a sharp, startled cry. Instantly the muscles spring on duty again, and by the time the mother reaches the bedside the child is comfortable and cannot explain why he cried. This may be repeated with variations several times before quiet, restful sleep is obtained.

When it is difficult to determine the exact situation of the trouble, the test known as Copeland's test, which depends upon the fact that inflamed tissues are hypersensitive to heat, will often aid in localizing the focus. It consists in passing a sponge or test tube filled with hot water along the spine over the transverse processes, when as it passes a certain spot the patient will often notice a distinct sense of pain.

In closing, I want to say that I believe more failures to diagnose spondylitis are due to lack of careful examination than to lack of knowledge, and I feel that I have only been reminding you of signs and symptoms that you know full well.

But I do know that diagnoses of colic, rheumatism, sciatica or injury cover a multitude of errors.

When we remember that spondylitis may cause any kind of pain, from headache or earache to sciatica, and when we cultivate a habit of examining the spine for rigidity as carefully as we examine suspicious lungs for tubercle bacilli, the early diagnosis of tuberculous spondylitis will be more frequently made.

Prognosis.—The mortality from tuberculous spondylitis of all forms is about 20 per cent. Omitting all further statistics on the subject the prognosis of tuberculous spondylitis may be summed up in a few words. (1) The factors concerned in the prognosis are the time at which the diagnosis is made and the treatment begun. (2) Individual resistance to the disease. (3) Patient's age. (4) Patient's environment. These, with the location of the disease in the spine, are the chief points in determining the prognosis. While the usual time for recovery is from three to ten years, it can be markedly lessened by prompt and efficient treatment. As regards deformity, complications, as abscesses, and paralysis, the date at which proper treatment is begun is of the greatest importance. Some patients seem to have no individual resistance whatever to tuberculosis, and they grow worse in spite of treatment. Why, I do not know. How much influence heredity may have in these cases, I do not know. I think environment has more. The prognosis is always worse in adults than in children both as to mortality and deformity. As to environment, I think if we could send all of our cases of spondylitis into the open air in a dry climate and give them good food, the time required for recovery would be markedly reduced. Even taking a patient from the unhygienic surroundings of a poor home and putting him into a light, airy hospital ward, with good food to eat, often works wonders.

As to the situation of the disease, this is also of prognostic importance. Tuberculosis in the cervical spine gets well earlier and with less deformity than in any other part of the body. The reason for this, as regards the deformity, is because the natural curve of the cervical spine is slightly forward, and the bodies of the cervical spine are comparatively thin. Tuberculosis of the lumbar spine gets well next in order as regards time required, and the deformity is slightly greater than in cervical disease of the spine, but recovery is the rule. Tuberculosis of the dorsal spine requires a longer time for recovery, and the deformity is greater. It is in the mid-dorsal and upper dorsal cases that we see the extreme deformities, and these are the cases that last for years and require constant supervision.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

METHODS IN MEDICAL TEACHING.

The approaching opening of the medical schools directs attention to the methods to be pursued in future dealings with the ever changing problem of medical education. In more than one quarter has come a cry that the practical side of medicine is now being too exclusively followed, and a renewal of the didactic lecture is demanded. This is only a natural reaction from the pursuit of facts without the enlightening guidance of theory, and excellent as clinical teaching may be, unless it be supplemented by a wise proportion of didactic teaching it is likely to fall short of accomplishing the highest results.

The most important adjunct to medical teaching at the present day is doubtless the laboratory, and no student should be satisfied with a curriculum which does not include full courses in pathological histology and chemistry. It is upon a knowledge of the data furnished by these institutions that not only is the knowledge of the student enriched but there is implanted in him habits of thought and methods of dealing with clinical problems of the highest usefulness to him in his subsequent career and which would not otherwise suggest themselves.

The tendency to uniformity in medical teaching is one of the inevitable results of progressive centralization. Now that every state board is demanding similar or identical qualifications as a prerequisite to a license to practice, there will be lost more and more the tendency for special attributes to be characteristic of various institutions of learning. This will not be without its bad results. Uniformity of thought renders more infrequent the tendency to unconventional reflection, and out of this new ideas often spring.

As a compromise between didactic and clinical methods of

teaching, a word may be said for the excellencies of the conversational method recently commented on by Dr. McFarland of Philadelphia. A conference is held, the class and the professor meeting in a small lecture room. There is a pleasant informality about a seated professor that works well on these occasions. A leading question is asked a student and by auxiliary questions the thoroughness of his understanding tested. If his knowledge is defective, another student points out his errors. By asking questions and by having the students themselves ask questions, a problem may be attacked from all sides, and what is known about, and even better, what is not known, are soon shown.

EDITORIAL NOTES.

Wholesale Malingering.

That important discoveries in medicine that are intended solely to benefit afflicted mankind are sometimes turned to baser uses is shown in the report of Surgeon J. M. Eager, of the Public Health and Marine Hospital Service, for the year 1903. In speaking of the transmissibility of trachoma the writer says that the Italian government, recognizing the contagiousness of this disease, now refuses to allow the embarkation of cases of active ophthalmia on emigrant ships leaving Italy. Fearing that they will not be allowed to embark many emigrants not trachomatous, but fearing that they may fall under suspicion, and others really victims of the disease, practice a sort of universal malingery at the time of inspection. Adrenalin with cocaine hydrochlorate is a favorite prescription for eye-drops. By its application a blanching of the conjunctiva is brought about, a condition which lasts long enough to enable the individual to pass the examination of the inspecting surgeon. If this government hopes to be able to exclude trachomatous emigrants it will have to examine them in their native villages before they have been coached in malingering.

The Deadly Hand-shake.

An essay was published some few weeks ago by a Belgian scientist in which he claims that the custom of shaking hands is one fraught with considerable danger. According to this investigator there is during the mutual pressure of hands an undesirable

exchange of bacteria, 80,000 of which inhabit every half-inch of the hand. It appears that the most dangerous individuals to shake hands with are doctors, surgeons, nurses, hair-dressers, butchers, tanners, and leather-dressers, while those engaged in metal trades are the least dangerous, owing to the fact that metal sets up an oxidation which acts as an antiseptic. The writer concludes that the only safe course is to salute only with our heads and our hats, or to always wear gloves. No doubt many a public official who has had to shake hands for hours at a time would be very glad if the laity would be convinced that it is a dangerous thing to shake hands promiscuously.

The Profession of Germany Organizing.

That the profession in Germany is being exploited in a manner similar to that which at present exists in Great Britain is shown from reports that from time to time find their way to us. To such an extent have medical men been pushed by the sick insurance societies that strenuous efforts have been put forth to organize in order that they may receive a living wage for services rendered to these societies. The most prominent organization is known as the Leipsic Verband, which has now enrolled over 16,000 members. This organization has interfered in 208 cases of conflict between physicians and insurance societies with results in all but three instances favorable to the medical men. These reports show that it is much harder for young physicians to gain a foothold in Germany than it is with us.

A Tribute to American Surgery.

The famous German surgeon, Prof. Hoffa, who recently paid this country an extended visit, on his return published a letter in one of the leading journals of Germany which shows that this country has now a much better standing with the foreign profession than it had a few years ago. Hoffa found much to commend in American methods, and was greatly impressed with the completeness of American hospital appointments, especially the corps of nurses found in every large hospital, whom he praises for their intelligence. American surgeons cannot but feel gratified to know that they are receiving recognition from Europe, which has long been looked upon as the fountain head of all things medical and surgical.

ITEMS AND NOTES.

CHOLERA is epidemic in Teheran, Persia, the deaths numbering several hundred daily.

THE date set for the next session of the American Medical Association is July 11-14, 1905.

A NUMBER of Italian physicians have organized the Italian Medical Association of the State of New York.

A NUMBER of Philadelphia citizens contemplate a hospital for the study and treatment of malignant disease.

THE Agnes Memorial Sanatorium, for the treatment of pulmonary tuberculosis, was opened on July 2, in Denver.

PROFESSOR CZERNY has endowed a prize in honor of his deceased father-in-law, the famous clinician, Adolf Kussmaul.

THE Missouri State Medical Association has decided to publish its transactions in the form of a monthly medical journal.

T. C. CUNNINGHAM of New York, a member of the Canal Zone Police Department, died July 16th at Panama from yellow fever.

THE will of the late Dr. Nathan Smith Davis of Chicago has been filed in the Probate Court, the estimated value being $39,000.

DR. KITASATO, of Japan, has accepted the invitation of the Congress of Arts and Sciences to attend the International Congress at St. Louis in September.

THE fifth Italian congress of pediatrics will be held at Rome in October. The subjects appointed for discussion are "Tuberculosis in Children" and "Infantile Anemia."

DR. EMILY DUNNING, who was the first woman to be appointed an ambulance surgeon, has become, in the regular course of service, house surgeon of the Gouverneur Hospital, New York City.

A STATUE of Pasteur at Paris was unveiled on July 16th in the presence of the president, the cabinet ministers, foreign ambassadors, and representatives of the medical profession of Europe and America.

THE trustees of Western Reserve University of Cleveland have voted to establish an antituberculosis dispensary in connection with the medical school. This is the second dispensary of the kind to be opened in the United States.

THE ninth annual meeting of the American Academy of Ophthalmology and Otolaryngology society will be held at Denver, August 24-26, 1904, under the presidency of Dr. Edward Jackson of Denver. The secretary is Dr. Derrick T. Vail of Cincinnati.

A COMMITTEE, of which Professor Pellizzari is the chairman, has been formed to promote the establishment of a light institute for the treatment of lupus and other forms of cutaneous tuberculosis at Florence. The King of Italy has intimated his approval of the scheme, towards the execution of which he has contributed $6000.

THE latest cure for appendicitis, as announced by cable from Berlin, is for the patient to walk on all fours for twenty minutes, four times a day. The theory on which this treatment is based is that certain muscles around the vermiform appendix are brought into play and strengthened by this quadrupedal cure, which are unused when a biped walks erect. Others are relaxed, and the localized inflammation has opportunity to subside.

A BOARD of officers will be convened to meet in Washington, D. C., Monday, October 3, 1904, for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine Hospital Service. Candidates must be between twenty-two and thirty years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character.

AN exchange states that when Dr. Justice Ohage became, a few years ago, health officer of St. Paul, he noticed a bit of shoal in the Mississippi visible only when the river was low, but accessible within ten minutes' ride from the city hall. Securing possession by gift of as much as he could, and by purchase of what he could not beg, he had the city's clean waste dumped upon this little island, thus rapidly bringing it above high-water mark. On the four and one-half acres thus ingeniously wrested from the "Father of Waters," the city of St. Paul now maintains within easy reach of a majority of its population, a children's playground, a small "zoo," a vegetable garden (to sup-

port the 40 uniformed attendants), public baths, with modern sterilizing plants for the bathing suits, a day nursery, a boy's gymnasium, and a girl's gymnasium—and all united by a small but satisfactory park.

An exchange says the product of cod-liver oil in Norway up to May 28th of the present year has been more than five times what it was for the same period of 1903 according to a recent report of United States Consul Cunningham at Bergen made to the Department of Commerce and Labor. As a result of this increase the price of the commodity has been gradually declining and the sales have not been very great. There are over 3500 boats engaged in the fisheries in Finmarken, where the season has been exceedingly favorable.

At the Congress of Professional Medicine held in Paris in 1900 it was decided that a committee should be formed for the purpose of drawing up a code of medical ethics. It was intended that this code should be handed to every one taking a medical degree on the day of the presentation of his inaugural thesis. The committee has just published the results of its labors in the form of a pamphlet bearing the title "Avant-projet d'un Code de Deontologie Medicale." The pamphlet consists of two parts, an introduction dealing with the principles of medical ethics and a code of 112 clauses.

An International Electrical Congress will be held in St. Louis during the week September 12 to 17. The congress will be divided into two parts, namely: (1) A chamber of government delegates appointed by the various governments of the world, invitations to which were issued at the beginning of the year from the United States government. The transactions of the Chamber of Delegates will relate to matters affecting international questions at large, divided into eight sections, one of which is for electro-therapeutics. The chairman of this section is Dr. W. J. Morton, New York City, and the secretary is Mr. W. J. Jenks of New York City.

The British Royal College of Physicians, says and exchange, and the Royal College of Surgeons, in March, 1902, made public a scheme for systematic research regarding cancer and an appeal for funds to carry out the project was made. About $500,000 was raised for the work. The Duke of Bedford promised an annual contribution of £1000 for three years. The fund is

known as the Cancer Research Fund. The Prince of Wales is the president. The executive committee consists of some of the most eminent British physicians and surgeons. The scheme embraced the provision and equipment of laboratories devoted exclusively to cancer research and the collection of statistical, dietetic and topographic information. King Edward is greatly interested in the fund, and when it was started he expressed the most earnest hope that its work would be productive of good results.

Dr. Darlington, Health Commissioner of New York, has asked, says an eastern exchange, of the Board of Estimates an appropriation of $10,000 to pay the expenses of a commission to study the causes, determine the nature, whether infectious or contagious, and devise means for the prevention of pneumonia, which has been strangely prevalent in the city during the present summer. The commissioner is quoted as saying, in explanation of his request for a commission, that "since the beginning of this summer the increase in the death rate from pneumonia has been alarming. In fact since the summer began the number of deaths from this cause has been far greater than the number of deaths from the General Slocum disaster. It is a subject which demands the closest scrutiny and the best of scientific means for its checking."

A Russian correspondent of *The Times* says that the mother of one of the Jewish surgeons who were sent from Warsaw to the war recently received from her son a letter written in the usual official Russian style and bearing the stamp of the censor. The letter stated that the writer was in good health, that admirable order prevailed among the troops, who were certain of victory and amply supplied with all necessaries, and that there was so little illness that the army surgeons had hardly anything to do. It concluded with the request that his mother send some Hebrew books of which he gave the titles. These read: "Famine and Destitution," "Consequent Fearful Epidemics," "Scarcely Any Sanitary Appliances," "Demoralization of the Army Constantly Increasing," "End of Discipline," "Wish I Were Taken Prisoner." Evidently the censor did not know Hebrew.

An exchange states that the discussion as to the comparative childlessness of college-educated women has received a new turn. A graduate of only a few years' standing writes that of her classmates none who married failed to become the mother of a healthy

child within two years of marriage. She says the type of the average college girl has undergone an important change within a very few years, and that this change warrants a very much brighter outlook for the future. Formerly the college girl was one whom some exceptional stress of circumstances forced to make the intellectual side of life predominant to the sacrifice of other interests from the grammar school up. This abnormal development tended to produce physical ill health and consequent unfitness for motherhood, even if it did not result in actual sterility. But with the rapidly increasing tendency of the sex to seek the higher education apart from any special stress of circumstances, the type of the college girl is ceasing to be abnormal, and in marriage and motherhood, as in other things, we may expect to see in the future college graduate just an ordinary woman, plus somewhat more than the ordinary amount of formal education.

The Census Bureau has issued the final bulletin on the negro population of the United States. The number of negroes in the entire area covered by the twelfth census (Continental United States, Alaska, and Hawaii, and Porto Rico) is 9,204,531, perhaps a larger number than is found in any other country outside of Africa. The report indicates that between 11 per cent and 16 per cent of the negro population have or are believed by the enumerators to have some degree of white blood. The centre of the negro population is in DeKalb county, Alabama, about four miles from the western boundary of Georgia, having moved thence from Dinwiddie county, Virginia, 476 miles northeast, since 1790. Over 77 per cent of the negroes live in the country, against over 57 per cent of the whites. Almost 90 per cent of the negroes in Continental United States are in the Southern States and three-tenths of them are in Georgia, Mississippi, and Alabama. Negroes constitute about a fifteenth of the city population and about a seventh of the country population of the Continental United States. There was an increase among the negroes of 1,245,318 or 18 per cent in Continental United States, but the rate of increase declined steadily through the nineteenth century. The negroes, unlike the Indians and the native whites, have a slight excess of females. Illiteracy among them is about seven times greater than among the whites. There are 3,992,337 negroes in the United States engaged in gainful occupations. Their death-rate approximates 30 per cent while that of whites under the same calculation is 17 per cent.

NEW PUBLICATIONS.

MODERN OPHTHALMOLOGY.

Dr. Ball has succeeded in producing a text-book on ophthalmology which belongs to the first rank. In the preface the author states it has been his aim to produce a work which shall be valuable alike to the medical student, to the general practitioner, and to the specialist. The undergraduate is not likely to be favorably impressed with this work for two reasons—its great length, and, compared to some excellent manuals, its high price. On the other hand, the post-graduate cannot fail to recognize the value and importance of the exhaustive manner in which the subjects are treated in this volume. In addition to the original work of Dr. Ball certain chapters have been contributed by collaborators: Dr. Zentmayer has written a chapter on "Anomalies of the Muscular Apparatus;" Dr. Knipe, on "The Ocular Manifestations of Nervous Diseases;" Dr. Shoemaker, on "Diseases of the Orbit;" Dr. Fischer, on "Microscopic Examination of the Eye;" Dr. Goldberg, on "The Hygiene of the Eyes;" and Dr. Krall, on "Errors of Refraction."

Worthy of special mention are the many illustrations and beautiful colored plates, many of them being from original drawings, and which help to make this treatise one of the most attractive single volumes on ophthalmology.

A copious, double-columned index of twenty-six pages, in fine type, closely printed, adds greatly to the value of the work.

Modern Ophthalmology: a Practical Treatise on the Anatomy, Physiology, and Diseases of the Eye. By James Moore Ball, M.D., Professor of Ophthalmology in the St. Louis College of Physicians and Surgeons. Pp. 820. 417 Illustrations in the Text and Numerous Figures on 21 Colored Plates. Philadelphia: F. A. Davis Co. 1904. Cloth, $7.00.

COMMONER DISEASES OF THE EYE.

In this little volume the student and busy general practitioner will find a work that describes the commoner diseases of the eye in simple words, technical terms being omitted as much as possible in a book of this kind. Chapter XIII, on "How to Preserve the Eyesight," should be read not only by medical men, but by teachers, parents, and Boards of Education as well as the pupil. The chapters on "Ocular Signs in Certain Diseases" have been carefully prepared, and are profusely illustrated. In short, the intention of the work—"to popularize a study that is too often considered difficult and unprofitable"—is manifest throughout, and cannot fail to be appreciated. A table of contents and a cross-reference index afford the student additional assistance in consulting this useful and timely handbook.

Commoner Diseases of the Eye; How to Detect and How to Treat Them. By Casey A. Wood, C.M., M.D., D.C.L., Professor of Clinical Ophthalmology in the University of Illinois, etc., and Thomas A. Woodruff, M.D., C.M., L.R.C.P., Professor of Ophthalmology in the Chicago Post-Graduate Medical School, Chicago, etc. 250 Illustrations; 7 Colored Plates. 500 pages, 5x8 in. Bound in Green Buckram, Gold Side-title and Top. $1.75 net.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Experimental Decapsulation of the Kidneys.

N. H. Gifford (*Boston Medical and Surgical Journal,* July 14, 1904) from the results of a year's experimental work performed on animals draws the following conclusions:

In all cases of two days and under and in controls the entire thickness of the capsule had been removed over two-thirds of the surface by the operation of decapsulation. There is a certain amount of intracapsular tension in undecapsulated kidneys, normal or with nephritis, as shown on removal of capsule. There is an immediate increase in size of decapsulated kidneys, persisting up to a month at least; afterwards, a decrease to approximately normal size complete at end of six months. There is congestion, moderate in degree, most marked in the intertubular blood vessels in cortex, lasting three to five days after the operation. No histologic change in the renal epithelium follows the operation of decapsulation of kidneys. A new capsule, very vascular, at first, 2 to 4 times thickness of old, is well marked at the end of eight days. At the end of six months it returns to approximately the normal thickness and vascularity. The new capsule arises chiefly from the connective tissue-cells of the intertubular connective tissue, but in part from the retroperitoneal connective tissue, which is present in the new bed of the kidney. No new vessels are formed which anastomose with those of the kidney. The increase in size is due primarily to the increase in blood supply, possibly resulting from the removal of the capsule.

Treatment of Irreducible Obturator Luxation of the Head of the Femur.

R. Gross (*British Medical Journal,* July 2, 1904) reports a case of the very rare condition of unreduced luxation of the thigh into the obturator foramen in which after an unsuccessful attempt to resect the displaced head of the femur, he practiced infratrochanteric osteotomy with good results. The injured limb, the author states, is now quite straight, and notwithstanding coxofemoral ankylosis there is very satisfactory compen-

sating mobility of the pelvis and vertebral column. The patient, though limping slightly, is able to walk over necessary distances without difficulty and fatigue. The shortening of the limb does not exceed 4 centimeters. The author has collected eight published cases of old and irreducible obturator luxation treated by surgical operation, in three of which reduction was effected after arthrotomy, and in the remaining five the head of the femur was resected. Of the three cases of arthrotomy two were fatal and in the third the results of the operative treatment were very unsatisfactory. The author concludes that in cases of old and irreducible luxation into the obturator foramen, resection of the head of the femur is preferable to forcible reduction after arthrotomy, but is disposed to regard infratrochanteric osteotomy as an infinitely more simple and easy procedure than either of these two operations, and one also that may be regarded as absolutely safe and likely to be followed by equally good, if not better results.

Does Gonorrhea Cause Prostatic Hypertrophy?

E. L. Keys (*Journal of the American Medical Association,* July 16, 1904) reviews exhaustively the subject of the etiology of prostatic hypertrophy and draws the following conclusions:

Among 433 cases suffering from prostatic hypertrophy only 18 show clinical evidence of previous prostatitis.

These 18 present no marked difference in point of size of the prostate or of beginning of the disease to differentiate them from the remaining 415.

Comparison of these 18 cases with 54 cases of chronic prostatitis without hypertrophy shows that the proportion of such cases suffering from prostatic hypertrophy varies little from the normal.

Prostatitis lasting more than ten years probably tends to produce prostatic atrophy rather than prostatic hypertrophy.

Therefore if it is true that hypertrophy of the prostate is pathologically referable to inflammation, the clinical data suggest that this inflammation is either early gonorrhea of relatively brief duration or some obscure sclerotic process associated with advancing years.

The late date at which prostatic hypertrophy begins and its infrequency compared with that of early gonorrhea make it seem clinically most improbable that early gonorrhea is the cause.

Lumbar Abscess.

Six cases of lumbar abscess treated by aspiration and injection of iodoform-glycerin emulsion are reported by A. F. Ludlow (*Boston Medical and Surgical Journal,* June 30, 1904). The writer says four cases gave a family history of tuberculosis. Five cases occurred in females whose ages ranged from seven to thirty-nine years, and one case in a male twenty-five years old. Two patients gave a history of injury to the back. In three cases two aspirations were made, in one case three, in another four, and in another ten. The urine in four cases out of six gave a reaction for iodine the next day after the aspiration. This reaction persisted only for two or three days, except in one case, in which it persisted for two weeks. Slight mental depression was noticed in two cases. As a general rule there was an elevation of temperature from two to four degrees following each aspiration. The cultures were sterile in every case except one, in which the bacillus proteus vulgaris was obtained. In all the six cases there has been no indication of return of the abscess after a period of five years in one case, three years in another, and two years in a third, while in the remaining three one year or less has elapsed since the last aspiration. There was a marked improvement in the general health of every patient.

Operative Cure of Gastric Ulcer.

C. W. Strobel (*International Journal of Surgery,* July, 1904) says that the purely medical treatment of all forms of this disease should be persisted in until hematemesis occurs, which is in fifty per cent of all cases, or until progressive disturbances of nutrition result in emaciation and exhaustion, when it becomes strictly operative. (Perforative cases are, of course, always operative.)

Upon the occurrence of hemorrhage, at any stage of the case and in any degree, the proper treatment is surgical, and delay is useless, if not dangerous, as we cannot tell how serious the condition is. We can only guess, and guessing is not science. There may be a threatened perforation or erosion of the wall of a large arterial twig, etc., and we have no means of knowing it. It is this same uncertainty that hangs about appendiceal and gall-bladder disease that makes it safest to operate early. And not alone for this reason but because the patient wants rest from suf-

fering, which in the event of such a complication only seems the more hopelessly remote.

To go into details of the various surgical procedures and their several indications, or to compile here the classical symptoms of the varieties and phases of gastric ulcer, is not within the scope of this article, says the writer.

The Heightened Resistance of the Peritoneum in Acute Appendicitis and its Bearing Upon Operative Procedure.

W. J. Stuart (*The Scottish Medical and Surgical Journal*, July, 1904) says there is practically no additional risk in opening the general peritoneal cavity, provided appendix and abscesses are thoroughly dealt with. No recurrence of appendicitis is possible. In abscess cases where the appendix has not been removed, recurrence occurs, according to Lockwood, in about 15 per cent of the patients. Multiple abscesses are all evacuated; it is just where this has not been done that a fatal result is apt to ensue. The foci from which the bacteria spread are removed and the peritoneum is able to deal with the organisms that remain. Fecal fistula is extremely rare. Adhesions of bowel and subsequent intestinal obstruction are less liable to occur where the suppurative process is rapidly brought to a conclusion.

The Treatment of Incarcerated Hernia by Means of Atropine Injections.

According to D. Hagen (*Interstate Medical Journal*, July, 1904) the rational treatment of incarcerated hernia should be as follows: After the establishment of the diagnosis an effort is made to reduce the hernia by means of mild manipulation. If this is unsuccessful, an immediate injection of atropine is given. After waiting a half hour another attempt at reduction by taxis is made, and if this again fails the same or a larger dose of atropine is injected. This may be repeated two or three times, and will often lead to a successful reduction of the hernia without operation. In the event of final failure, a herniotomy must be performed; the above treatment, even if unsuccessful, forms the best possible preparation for an operation. In the aged especially the bloodless treatment is to be preferred.

Fistula in Ano.

J. C. Brick (*New York Medical Journal,* July 23, 1904) says great care should be taken in making the diagnosis: a moderate degree of tuberculosis of the lungs is not a contraindication for operation if in the operator's opinion sufficient vitality remains to restore the wounded tissue, but ether should not be the anesthetic used. Local tuberculous fistulas should be inclosed with a thermocautery and early hygienic treatment instituted: simple incision over a grooved director of fistulous tracts, disregarding sphincters, is poor rectal surgery; every effort should be made to preserve the sphincters, and if cut they should be cut at right angles to the fibers, disregarding the fistula. Finally, importance of the after treatment must be emphasized.

Hemorrhoids.

J. C. Brick (*American Medicine,* July 23, 1904) says that in dealing with hemorrhoids the method selected should be the one best suited to the individual case, although no case of internal piles he has yet seen has been too bad for the clamp and cautery method. There is a double protection against hemorrhage, both by the crushing action of the clamp on the tunica intima and by the cauterization, the thermic action of the cautery destroying all septic germs which may be present on the operative field; all the capillaries and lymphatics are sealed, which prevents absorption of septic agents; there are no ligatures to cut through; the operation is finished at one time; no protracted pain from inflamed nerves; no sutures to be removed; and there is a gain of about one week in healing.

Treatment of Advanced Empyema by Extensive Rib Resection.

Voswinkel (*Archiv f. klin. Chirurgie,* Bd. 73) reports 19 cases of advanced empyema treated by extensive rib resection. This operation was performed in cases where incision and aspiration had previously been made. Of the 19 patients operated upon 6 died, whilst the other 13 recovered, 8 entirely and 5 partially, the latter having a small fistula. The author believes from the above results that this operation is indicated in old chronic empyemas.

The Relations Between Influenza and Appendicitis.

According to statistics gathered by Philip Marvel (*Jour. A. M. A.,* July 30, 1904) appendicitis has increased in the past five years much more rapidly than in either of the previous five year periods studied. The accessory cavities are more frequently attacked and when diseased more likely to be aggravated by influenza than by other diseases. There is more than a possibility of the existence of chronic intestinal influenza, therefore a probability of its causative relation to appendicitis.

Hypertrophied Rectal Valves and Their Treatment.

W. Teachnor (*Cincinnati Lancet-Clinic,* July 23, 1904) says the rectal valve is a permanent constituent of the rectum. They become hypertrophied and obstructive from an inflammatory condition produced either locally or by a constitutional dyscrasia. The benefit derived from operative procedure depends upon the proper selection of cases. Valve section will not relieve constipation. Operation is beneficial in selected cases.

MEDICINE.

Affections of the Hands and Feet.

In summer many people complain of the hands and feet perspiring, and this, according to Isadore Dyer (*Indiana Medical Journal,* July, 1904) may often result in a chronic condition of hyperidrosis and is often complicated with a tendency to inflammation, causing much pain and possibly confining the patient to bed. The condition is apparently easy to treat. Advise the use of white Castile soap and restrict excessive drink. Give a small dose of strychnia internally for a long period, about six weeks. For the hands, the use of a three to five per cent alcoholic solution of salicylic acid frequently during the day; for the feet, a like remedy in powdered form, namely salicylic acid half dram, tannin one dram, powdered arrowroot and rice starch, of each half an ounce, dusted in the stockings every day. Where the feet are inflamed and not blistered, simply bathing for twenty to thirty minutes in hot water with four ounces of laundry starch to the gallon should be of service before the use of powder. In the more chronic condition lead water may be used on cloths applied at bedtime, and if the blisters suppurate, noth-

ing relieves better than a five to ten per cent solution of ichthyol. The commoner conditions of the nails of the hands and feet are: Ingrown nails, run-arounds, hangnails, horn-nail and felon. The hangnail often causes paronychia, and as often the felon. It should be held in place and collodion painted over it. When infection occurs, touch the spot with carbolic acid and mop afterwards with alcohol or touch it with nitrate of silver. If the infection goes further nothing is so good as a 1 to 1,000 bichloride dressing kept constantly wet, which often aborts felons and is much better than the soap and sugar and other compounds of household practice. The ingrown nail can be treated by scraping a notch and clip to keep the flesh away from the nail. In severe cases it may require the removal of a portion of the nail and redundant skin. Warts will almost always disappear under daily painting with salicylic acid in collodion (5 per cent) solution, excepting in the acuminate type. Other remedies which he uses are formalin solution, corrosive sublimate, and sulphur. Corns and bunions are sacrifices to civilization and the original conditions are relieved by the wearing of properly adjusted shoes and protecting the part with a simple cotton and collodion dressing. A useful and convenient remedy is tincture of iodine. Bathing in starch water is also advisable and should be practiced twice a day. He speaks in condemnation of the commoner practice of letting chiropodists work on the feet with a knife that is always unclean, helping only to promote disease and the practice of the operator. Salicylic acid plaster, 10 per cent, is useful for flat corns not especially painful. Most of the local applications are suitable, but the above seem to be the ones here especially recommended.

Bleeding in Acute Hemorrhagic Nephritis.

In a clinical lecture delivered in the Institute of Clinical Medicine of Rome, Baccelli (*British Medical Journal,* July 2, 1904) discussed the treatment of acute hemorrhagic nephritis. He laid stress on the hydraulic mechanical conditions which develop during acute nephritis, and chiefly in glomerulonephritis. In that form the exudates and the leucocytes that accumulate in Bowman's capsule press on the glomeruli on all sides and produce a state of paralysis with consequent alteration of function. From the beginning of the inflammation, however, there is an increase of the pressure of the arteries, but the kidneys do not experience any advantage from this on account of the state of

imperviousness existing in the delicate ramifications of the renal arteries, in which the pressure and the velocity of the blood become diminished, while in the renal veins the pressure increases. The venous congestion produces a state of anoxemia of the tissues, leading to disintegration and shedding of the epithelia, with serious disturbances of the dialytic functions of the kidney and obstacles in the process of repair of the kidney. Baccelli, in view of the fact that the inferior vena cava and the renal veins are destitute of valves, and that the withdrawal of blood from a part at any distance from a given organ produces beneficial effects on that organ, determined to treat the renal condition by bleeding to the amount of 250 grms. from the back vein of the arm. In the case of a boy aged seven years suffering from acute glomerulonephritis of a few days' standing, with serious hematuria and general anasarca, he performed wet cupping to 100 cubic centimeters from the vein of the left foot. Immediately afterwards the urine became less rich in blood, the albumin markedly diminished; after four days there was no blood in the urine, the quantity of the renal excretion was increased, the albumin was reduced to a trace, and edema had disappeared. In a few days the child was well. The first benefit obtained after the bleeding was the great diminution of the blood in the urine, as was naturally to be expected since the first effect was to remove the congestion of the kidneys. Baccelli said that if the improvement had not been so rapid and lasting he would have repeated the bleeding two or three times, as sometimes complete recovery is brought about only after three or four bleedings. Naturally the bleedings should be done as soon as possible; the shorter time the epithelium of the kidney has been exposed to the injurious influence of the passive hyperemia, the more favorable is the prospect.

Notes on Vaccine.

Chas. T. McClintock (*Journal American Medical Association,* July 30, 1904) from a series of experiments made by him draws the following conclusions:

1. Many of the domestic animals are susceptible to smallpox vaccine.

2. The time of development varies notably, from three days in a guinea-pig to from nine to eleven days in a dog. This variation appears to depend on the resistance of the animal, and apparently does not increase or decrease the virulence of the

vaccine. Vaccine grown for seventeen generations on guinea-pigs, where it develops in three or four days, when inoculated on heifers or dogs takes the usual time for development in those animals.

3. In guinea-pigs and rabbits, full grown animals are decidedly more susceptible than young ones.

4. Vaccine immunization in cattle is not to any notable extent transmitted to the fetus.

5. A great many chemicals have a destructive or germicidal action on bacteria, but in the list of chemicals thus far tried, none have been found which show any special or specific action against the vaccine organism.

6. The vaccine organism is not killed by glycerin, chloroform, chloretone, potassium cyanid, carbolic acid, or quinine, when these chemicals are not used in too great strength. At the same time all the ordinary bacteria contaminating the vaccine are destroyed.

7. Contrary to the opinion of many observers, we have not found that the vaccine organism decreases in virulence by repeated inoculation on calves. At one time we carried a strain of vaccine through eighteen generations on calves in eighteen weeks, destroying the bacteria in the vaccine with chloretone before making each inoculation. At the end of the time there was no apparent loss of virulence.

The Differential Leucocyte Count as an Aid to the Diagnosis of Fevers.

W. Krauss (*New York Medical Journal*, July 2, 1904) says it is not so much the absolute increased per cent of large lymphocytes which is diagnostic of malarial infection as the relative increase over the small lymphocytes. In the cases of malarial infection without much fever and without quinine history, the multinuclears are markedly diminished and the large lymphocytes very much increased in proportion. In the absence of adenopathy, possibly also of influenza and measles, the above finding is positive evidence of present or very recent malarial infection. During the rise of a malarial fever or as a result of quinine therapy, the multinuclear leucocytes may reach 80 per cent, but in that event the large lymphocytes exceed in number the small ones. In malarial hemoglobinuria any of the various blood findings characteristic of malarial fever may be

present in any stage, and there is no evidence now at hand to explain this. Malarial and typhoid fevers can be more positively differentiated from fevers of sepsis, pneumonia, rheumatism, malignant tumors, etc., by the differential leucocyte count than by the hemocytometer, and it can be done on dried films, away from the bedside. Malarial infection makes a strong impress upon the leucocyte relation, no matter what other disease it is associated with. It is not safe to rule out typhoid fever when the malarial variation is found, but as it calls for antimalarial medication the therapeutic test may decide before a Widal would appear. In a gradually developing fever the absence of marked increase in large lymphocytes or multinuclears during the first week justifies a preliminary diagnosis of typhoid fever.

Illuminating Gas Poison.

In cases of poisoning by illuminating gas leucocytosis is, according to W. G. Thompson (*Medical Record,* July 9, 1904), both high and persistent, rising in many cases above 18,000, and in a few cases as high as 50,000. A differential leucocyte count shows preponderance of the polymorphonuclear cells. A high degree of leucocytosis is a very unfavorable prognostic symptom.

Elevation of temperature is observed in nearly all cases. The fever is usually moderate and of very irregular type. In many cases a subnormal temperature precedes the elevation, and it is often observed also in convalescence. The pulse is disproportionately rapid as compared with the temperature.

The nervous symptoms are both varied and inconstant. Convulsions occur in about seven per cent of all cases, and muscular rigidity in a slightly larger proportion. The reflexes and pupil symptoms show great variability. The coma bears no definite relation to the tensity or duration of the fever. Coma lasting four or five days is not invariably fatal. In the series of ninety comatose cases, only seventeen, or 18.8 per cent, were fatal.

The results of combined phlebotomy and saline infusion justify the prompt and thorough employment of these measures.

Pneumonia is an infrequent complication, and in a large percentage of fatal cases the cause of death may be referred to cerebral lesions, such as congestion of the meninges and brain substance, hemorrhage of the cerebral capillaries, or hemorrhage into and softening of the internal capsule, lenticular nucleus, and adjacent structures.

The Relation of Cells with Eosinophile Granulation to Bacterial Infection.

Eugene L. Opie (*American Journal of Medical Sciences,* June, 1904) says that certain bacteria, as those of tuberculosis and cholera, producing somewhat chronic fatal infection in guinea-pigs, cause the eosinophile leucocytes gradually to disappear from the circulating blood. The study of dead tissues gives little indication of the behavior of the eosinophile leucocytes during the course of bacterial infections. After the inoculation of an organism producing an infection from which the animal is capable of recovering, eosinophile leucocytes disappear from the peripheral circulation to a proportion of less than 190. The number then increases for a few days, after which it again becomes normal. When bacteria are introduced into the peritoneal cavity of the guinea-pig, the large mononuclear and eosinophile cells contained in the peritoneal fluid form compact clumps which adhere in great part to the surface of the omentum, so that for a time eosinophile cells have almost completely disappeared from this fluid. After about one hour they again appear. Eosinophile cells rarely if ever act as phagocytes ingesting bacteria. Eosinophile leucocytes are ingested by large mononuclear cells (macrophages). In cases of severe bacterial infection eosinophile myelocytes accumulate in the spleen and may be found in the circulating blood within from two to four hours after inoculation, showing that these elements are derived from the bone-marrow and are not found in the spleen. Bacteria exert a chemotactic influence upon cells with eosinophile granulation, attracting them from the bone-marrow into the blood and from the circulating blood to the site of inoculation.

Intestinal Perforation and Peritonitis in Typhoid Fever.

W. D. Haggard (*Medical Record,* July 16, 1904), who has made an extended study of this question, says it occurs more often in men than women—80.9 *vs.* 19.1 per cent. It is, like hemorrhage, rare in children. It occurs in about 2.5 per cent of all cases of typhoid fever.

In the first week 3.31 per cent occur; 20.19 per cent in the second week; 38.94 per cent in the third week; 14.90 per cent in the fourth week; 9.13 per cent in the fifth week; 5.75 per cent in the sixth week; 7.21 per cent from the seventh to the eleventh

week; and it has been observed as late as the one hundredth day (Curschmann). Holmes operated on one case after four months.

It naturally occurs more frequently in severe attacks, but may occur in mild attacks, and it may be the first real symptom of so-called walking typhoid. It occurs in the ileum in 95.5 per cent, usually in 18 inches of cecum (Osler), always in three feet (Loison); in the large intestine in 12.9 per cent, and is most often situated in the ascending transverse and descending colon, sigmoid, and rectum in the order named. It may occur also in the appendix, Meckel's diverticulum and jejunum.

The perforation is single in 84 per cent. There may be two or more, and in one case there were twenty-five (post mortem). Cases with diarrhea and tympany are more likely to have perforation. Six out of thirty cases occurred with hemorrhage (Osler).

The death-rate given by Murchison is 90 per cent to 95 per cent. Osler says he could not recall a single case in his experience that had recovered after perforation had occurred.

The Neural Factor in Heart Disease.

A. Morrison (*Archives of Pediatrics,* July, 1904) cites three cases as showing the influence of the nervous system in heart disease. One was that of a girl who suffered from rheumatism when five years old. Two years later she was in the hospital because of fever and a mitral regurgitant lesion, remaining an in-patient for two weeks and then being treated as an out-patient with satisfactory progress for five weeks, when she developed marked tachycardia, with the heart-rate 200 to the minute and pulse not countable at the wrist. Re-entering the hospital there was temporary improvement in the tachycardia, the heart beat falling to 100 and remaining at about this rate for ten days. Then edema and drowsiness supervened, the liver became enlarged, albumin appeared in the urine, the heart-rate ranged from 160 to 100, and the child died, but without any sign of embolism.

At the necropsy there was no trace of recent inflammation of the endocardium or pericardium, though the latter contained three ounces of serous fluid. There were no pericardial adhesions. The left venticle was hypertrophied and the anterior cusp of the mitral valve thickened; the left auricle was dilated, as was the right ventricle. On section the myocardium was apparently normal; microscopically the transverse striæ of the muscle

fibers were less visible than usual but no definite pathological condition. In some sections there was evidence of active interstitial hyperplasia in immediate relation to the trunks of cardiac nerves in the neighborhood of the right coronary artery.

Dr. Morrison regards the escape of the heart from nerve control as having been due to the interstitial changes around the cardiac nerves rather than to the muscle changes.

The Position of the Human Stomach.

The former teaching that the lowest part of the stomach is formed by the greater curvature was founded upon observations on the cadaver and is not now generally received.

W. B. Cannon (*British Medical Journal,* July 2, 1904) extending his researches upon the digestive movements from animals to man, has confirmed the modern view by the *x*-rays. From the shadow cast by the normal human stomach containing food with bismuth subnitrate, it can be seen that as digestion proceeds the longitudinal and oblique muscular fibers contract, and lift up the organ toward the fixed cardiac orifice; hence in the later stages the pylorus is the lowest point, and when it opens, the fluid will pass out of the stomach by gravity.

Primary Ulceration of the Tonsil.

Thos. J. Harris (*American Medicine,* July 23, 1904) emphasizes the great value of bacteriologic examination in all membranes in ulcerative conditions of the tonsils. He says there occur several primary forms of ulceration of the tonsil, bacterial in origin, which can be and doubtless have been mistaken for the graver conditions due to diphtheria or syphilis. Almost irreparable harm may result to the patient from a false diagnosis of the latter disease.

Extraction of Toxin from Frozen Typhoid Bacilli.

Bessenge and Mayer (*Centralblatt f. Bact.,* No. 3) rubbed up frozen typhoid bacilli with normal saline solution and procured by centrifugalization a fluid free from bacterial detritus. This fluid was slightly toxic to guinea-pigs and produced in the animal body an agglutinating and bactericidal anti-body which also showed a specific precipitin with typhoid serum. The authors do not believe that this toxin is the poison which causes the specific death in typhoid infection.

THERAPEUTICS.

Successful Treatment of an Alcoholic Against His Will During Natural Sleep.

At the June meeting of the Paris Society of Hypnology and Psychology M. Farey (*Lancet,* July 2, 1904) related the case of a man aged 25 years. He was married and the father of a family and every day he was in the habit of drinking a litre of wine besides many bocks of beer, rum, "amer," vermouth, and absinthe. Most of the week he was drunk but was usually quiet, although if he drank more absinthe than usual he became very violent. He broke up the furniture and knocked his wife about so that on one occasion she was prematurely confined. He lost a good situation and being incapable of any work passed all his time at a café. As he refused any treatment suggestion was employed without his knowledge during natural sleep. After some weeks he had no outbursts of violence and he improved month by month. As in all cases of alcoholism, treatment had to be prolonged, for no definite cure can occur until the will has had time to be reconstituted. At the end of eighteen months he was quite well, he went no more to the café, and only drank a little light beer with his meals. This method of suggestion during natural sleep may also be usefully employed in cases of patients suffering from obsessions or delirium who cannot be hypnotized, and suggestion of this kind appears just as efficacious as that given during profound hypnotism.

The Radiant Light Bath in the Treatment of Neuroses.

T. D. Crothers (*New York Medical Journal,* July 23, 1904) says the radiant light penetrating to the deeper tissues of the body is turned into heat or is transformed into nerve energy more positively than that of heat from hot air. The clinical effects of the bath prove its power as the eliminating agent and a corrector of neurotic, nutrient and capillary disturbance. In neurotic diseases its action in conjunction with other measures is far superior to any of these means when used alone. The evidence so far points unmistakably to the possibility that when used in connection with other electrotherapeutic measures it may come into general use and constitute a real advance in the progress of neurological therapeutics.

Sarcoma of the Orbit Treated by the Roentgen Rays.

At a recent meeting of the Paris Societe des Hôpitaux M. Beclere (*Lancet,* July 2, 1904) reported the case of a man who was attacked with malignant sarcoma four years ago and had gone under two operations on this account, the last of them being enucleation of the eye. There was subsequent recurrence of the disease on a level with the cheek, the skin of which was raised by the growth. Arsenic and quinine having produced no effect the patient was treated with Roentgen rays. From this period there was an improvement, which now appeared to have ended in complete recovery. It was natural to attribute this result to the Roentgen rays, but it ought to be mentioned that each exposure to the rays was preceded by subcutaneous injection of quinine. The Roentgen rays have therefore a selective action not only upon epithelioma but also upon sarcoma and new growths generally, the integument traversed by the rays remaining unaffected.

Value of Prophylactic Immunization in Diphtheria.

Zuppinger (*Wiener klin. Wochenschrift,* 1904, No. 2), after using prophylactic measures for a number of years in diphtheria by means of injecting antitoxin, obtains the following results from 1000 cases of children immunized. Out of this number 18 contracted diphtheria; all these cases were of very light form and complete recoveries were made. He uses two to three hundred antitoxic units, and especially advocates this measure in protecting infants. In three or four weeks the immunized subjects again become susceptible, so that if the individuals are still exposed further injections are necessary.

Therapy in Nephritis.

Koevisi and Shulz (*Berliner klin. Wochenschrift,* No. 23) after carefully examining the metabolic products and the freezing point of the urine, blood, and sweat of nephritic patients offer the following therapeutic suggestions: The diet should be non-irritating and low in salts, at the most .5 grams to every 100 cubic centimeters of urine voided. They also warn against the administration of too much fluid, as it does not further the elimination of the solids by the kidneys, and for this reason they do not believe in an absolute milk diet. Artificial stimulation with diuretics must be resorted to in cases of edema, and a result is only to be hoped for where the kidney cells are still able to react.

Light Therapy in Skin Diseases.

C. W. Allen (*Journal American Medical Association,* July 30, 1904) says that in the vast majority of cutaneous affections the Roentgen ray is of greater utility than either the actinic or high frequency methods. In lupus the Finsen method, though tedious and disagreeable, is efficacious. The combined ray and high frequency spark may prove to be equally good. The actinic method is less beneficial in cancer than the Roentgen ray. The high frequency method is exact, no more disagreeable than the actinic, and for small lesions of epithelioma, lupus, lupus erythematosus and many skin diseases gives quicker and better results. All three can be advantageously combined for the different stages and phases of a large class of affections.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Cæsarian Section.

T. J. Moxwell (*American Journal of Surgery and Gynecology,* July, 1904) gives the following rules to be observed in the technic of the operation:

1. Always remove the uterus (Porro's) if it is septic.
2. Never use an antiseptic solution in the abdominal cavity. Hot sterile salt solution should be used for cleansing the peritoneum.
3. Avoid cutting the placenta.
4. Grasp child by the legs, never by the head or arms.
5. Waste no time in picking little shreds of decidua off the uterine walls.
6. Control hemorrhage by grasping, with the hands, the neck of uterus. A constricting rubber compromises the life of the child by cutting off circulation; it may produce traumatism by its pressure.
7. Use kangaroo tendon (Dr. Marcy's) for continuous deep and superficial sutures in closing the uterus. If silk is used, always adopt the interrupted suture.
8. Use no drainage in the abdomen.
9. One-third of the upper end of the abdominal cut may be closed before opening the uterus. It facilitates the final dressing

after the uterus has been replaced. The long cut through the abdomen, sufficient to deliver the uterus, makes it difficult to control intestinal protrusion after the replacing of the uterus, while the partial closure before opening the uterus does not delay but facilitates the speedy conclusion of the operation.

Tuberculosis in Pregnancy.

Fellner (*Wiener med. Wochenschrift,* No. 25) reviewing the statistics of 300 cases comes to the following conclusion: In severe cases of pulmonary tuberculosis it is of no benefit to the mother to interrupt pregnancy during its latter half, though during the first months in severe cases of phthisis abortion should be brought about. Mild cases are capable of enduring the full period of gestation without bad results. Laryngeal tuberculosis is the most severe complication of pregnancy, as it shows a mortality of 61 per cent excluding those cases that died after delivery. The author therefore urges that pregnancy be immediately interrupted in even the slightest case of laryngeal tuberculosis and points out that sufferers therefrom should not be allowed to marry.

Lactating Mastitis.

H. Ehrlich (*Wiener med. Wochenschrift,* No. 18, 1904) discusses thoroughly the pathology and prognosis of this condition, and finds that without an infection mastitis does not occur and that the etiological factors of infection are variable. The mode of entrance may be through the lymph channels, due to an excoriation of the nipples, or directly through the milk ducts. The latter will usually occur in multiparæ or late in the lactating period; exceptionally a mastitis may occur due to metastases. He closes by describing a case of phlegmonous mastitis with gangrene and gas formation, septicemia, and death.

Conservative Surgery of the Uterine Appendages, with Especial Reference to the Ovaries.

E. L. Torombly (*Boston Medical and Surgical Journal,* June 30, 1904) advises conservatism in the treatment of diseased ovaries. He advocates the exploratory incision to be made in ovaries when constant pain is present. This position he upholds for the following reasons: (1) It has not been proved to increase

the danger. (2) It is a wise proceeding when the other ovary is cystic or contains a papillary growth. (3) It may prevent a secondary operation. (4) It should prevent removal of a normal ovary. (5) It may disclose a growth within or beginning cystic formation which can be easily excised. (6) It is a conservative operation, consuming but little more time. Of course this advice applies only to cases in which the abdomen has already been opened for the treatment of definite conditions.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
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Mental Symptoms Associated with Pernicious Anemia.

The mental symptoms associated with this disease have long been recognized, Addison and various other writers having made mention of them. Dr. Wm. Pickett, of Philadelphia, in the June number of the *American Journal of the Medical Sciences* reviews the subject, giving several cases with the blood counts and mental symptoms and concludes as follows:

"A composite picture of the mental disturbance in these cases presents a shallow confusion with impairment of the ideas of time and place (disorientation), more marked on awakening from sleep. The patient fabricates, relating imaginary experiences of 'yesterday' in a circumstantial way.

"Illusions, particularly of identity, are common. Hallucinations appear at times, pertaining to any of the senses.

"Based upon these illusions and hallucinations, persecutory delusions arise. These are usually transient, causing episodes of fear and agitation, but they may persist for considerable periods and be thus somewhat fixed; they may be even systematized, as in Dr. Thornton's case.

"The pernicious anemia psychosis is mainly an abeyance of mind; it rarely presents that spontaneous excitement by which some types of confusion seem to merge into true mania; so that the term amentia, in Meynert's sense, seems appropriate for it. Of Meynert's two groups, idiopathic and symptomatic amentia, the latter, of course, would embrace the pernicious anemia psychosis. Korsakoff's disease and folie Brightique resemble it closely."

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ORIGINAL CONTRIBUTIONS.

DIFFERENTIAL DIAGNOSIS AND COMPLICATIONS OF APPENDICITIS.*

BY DANIEL N. EISENDRATH, A.B., M.D.,

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I show you to-day four cases which are rather interesting from a diagnostic standpoint. The first is a woman, forty-three years of age, unmarried, who had always been healthy; never suffered from typhoid fever or attacks of jaundice. I was called to see her by Dr. Wm. Whittaker, who had made a diagnosis of appendicitis. He had based his diagnosis upon a swelling, evidently of an inflammatory nature, situated in the right iliac region, about the size of the palm of the hand, with rigidity of the abdominal wall over it, extremely tender to the touch, which had come on within twenty-four hours, accompanied by quite severe pain, localized over the right iliac region.

I saw her with Dr. Whittaker during the second twenty-four hours of the disease, and confirmed his diagnosis of appendicitis. I examined the visible mucous membranes and skin, and could find no jaundice. I inquired in regard to previous attacks, and she assured us that this was positively the first time that she had experienced any pain in the abdomen. I advised immediate operation, believing it was a well walled-off appendiceal abscess, which should be opened. Upon opening the peritoneal cavity a tumor made its appearance in the wound, which extended down as far as the iliac fossa, was about the size of a child's head at term, and fluctuated distinctly. It was not adherent to any of the surrounding intestines, but

*Clinical lecture delivered at the Cook County Hospital.

was free at its lower pole. I followed it up toward the liver, and found, much to my surprise, that it was an enormously distended gall-bladder, covered by a tongue-like prolongation of that portion of the right lobe of the liver which normally covers the gall-bladder, known as Riedel's lobe. I aspirated the contents of the gall-bladder, evacuated a large quantity of pus, sutured it to the abdominal wall, and after opening the gall-bladder itself removed two large stones the size of a walnut, distinctly faceted, and sixty-three smaller stones. Looking at the case again in the light of the developments shown at the operation, I do not see how I could have made any other diagnosis. I examined the patient immediately after the operation as to the presence of jaundice, but could not find even a trace of same.

As I have stated on other occasions, gall-stones can remain dormant in the gall-bladder for many years without giving rise to any symptoms, and not until an infection is added does their presence manifest itself. The gall-bladder then becomes acutely distended, and gall-stone colic begins. Not infrequently inflammation of the serous coat takes place, with adhesion to the surrounding structures, giving rise to symptoms similar to those of an appendicitis, except their higher location. When the gall-bladder is greatly distended, as in this case, and Riedel's lobe very marked, it is not uncommon for such a tumor to extend down as far as the pelvis, especially in elderly females with considerable relaxation of the ligaments which support the various viscera, and to be mistaken, as in this case, for an appendicitis.

The second case which I show you is that of a patient who was admitted to my service, during my absence from the city, in July, with the diagnosis of appendicitis. She had been taken suddenly ill two days before admission with severe pain in the right iliac region and vomiting, and when first seen the diagnosis of appendicitis seemed to be confirmed by the extreme rigidity on this side of the abdomen; there was sensitiveness to pressure, but no tumor could be felt. She was operated upon immediately, but no evidence of an acute inflammatory condition of the appendix could be found. Evidence of an old chronic appendiceal trouble, with thickened appendix, buried in the midst of adhesions revealed itself. The appendix was separated from these adhesions and removed. Her symptoms seemed to subside. The temperature, which had been 101°, dropped to normal, and remained so for nearly three weeks. Suddenly it began to rise

again, until within three days it had reached 105°. There were irregular chills, accompanied by a rise of temperature to 105° and 106°, accompanied by severe sweats and rapid pulse, until it seemed as though the patient was to die of an acute sepsis. At about this time she began to show symptoms of cystitis, and passed a small uric acid calculus, accompanied by pains in the right iliac region. The urine contained considerable pus, but the abdomen was so tender over the right side that it was impossible to palpate any tumor. Under anesthesia I could feel a large mass extending to the level of the anterior superior spine and disappearing under the ribs. The mass was about the size of two adult fists, or even a little larger, and extended from the lumbar region downward. On account of the presence of pus in the urine, the tumor, and the passage of a small calculus, I felt that our diagnosis of appendicitis had been wrong, and that we were in reality dealing with a right-sided pyonephrosis. I made an incision in the retroperitoneal tissues down to the kidney, and confirmed the diagnosis. After packing gauze in all directions around the kidney, I inserted an exploring needle into the kidney tumor, and withdrew pus. I then made an incision through the convexity of the kidney and evacuated several ounces of pus, with a rather fetid odor. I then inserted a drainage-tube surrounded by gauze into the pelvis of the kidney, since which time the patient's temperature has been practically normal, and she has gradually lost her anemia.

After making the incision into the kidney, I explored the interior with my finger, and found the pelvis enormously dilated and filled with pus. I am inclined to believe that the pyonephrosis was primary, and that the appendix had not given rise to the original symptoms. This confusion of pain arising from a renal condition, especially if complicated with pus formation, with the inflammations of the appendix, is also not uncommon, and must always be taken into consideration in the differential diagnosis of inflammatory affections on the right side of the abdomen.

I will not remove the kidney, but give it an opportunity to recuperate. As long as any cortex is left it is advisable to attempt to leave it.

The third case, which I propose to operate upon this morning, is that of a young boy, aged twelve, who entered the hospital last summer (about three months ago) with the diagnosis of an appendiceal abscess. This was opened and a considerable

quantity of pus evacuated. You know that it is much better practice at the present time, in these cases of circumscribed abscess formation following appendicitis, to open the abscess and drain it, without making an attempt at the time of the primary operation to remove the appendix. This line of treatment was carried out in this case. The wound, as you see it now, has healed entirely, but there is a gap in the abdominal wall beneath it through which intestine protrudes (ventral hernia). After excising the scar I expose this prolapsing intestine, which I find adherent to the edges of the incision. It is the ascending colon, which you can readily recognize by its longitudinal muscular bands and larger size. Owing to its firm adhesion to the abdominal parietes, constituting a postoperative hernia, it will be necessary for me before proceeding further to dissect it away carefully from the parietal peritoneum. Having accomplished this I proceed to search for the appendix, which now demands removal, on account of a second attack, from which he has just recovered, having entered the hospital about two weeks ago with renewed symptoms of an appendicitis, and moderate fever, which has gradually subsided.

I find upon exploring the abdominal cavity that the cæcum, with the appendix, has been drawn up behind the ascending colon, and lies in a cavity formed by the inferior surface of the right lobe of the liver and gall-bladder, ascending colon, and parietal peritoneum in front of the kidney. Upon separating the adhesions of the cæcum and appendix to these structures, about two ounces of pus is evacuated, and the appendix and cæcum now freed. I find the former greatly thickened, covered with inflammatory lymph of recent origin, and pus. The appendix itself is directed upward; its tip is adherent to the under surface of the liver (right lobe), its base directed downward. After demonstrating these lesions to you I will now remove the appendix, tying it at its base with a catgut ligature, and covering the stump, after disinfecting the same with pure carbolic acid, with a cuff of peritoneum, it being impossible, on account of the greatly thickened condition of the cæcal peritoneum, to invert it in the usual manner. The abscess cavity, in which the appendix and cæcum have lain, between the liver and ascending colon will now be tamponed with gauze, surrounded by gutta-percha tissue, and allowed to heal by granulation. It will be necessary to suture the lower end of the wound in the abdominal parietes, in order to prevent any communica-

tion of this abscess with the general peritoneal cavity. From this case you can readily see how the subphrenic abscesses can arise through direct continuity of suppuration from appendicitis.

The fourth case is that of a patient who was admitted to the service of my colleague, Dr. L. E. Greensfelder, in the Michael Reese Hospital. He had been sick two days with severe pain in the right iliac region, vomiting, and fever, and had been sent to the hospital with the diagnosis of an appendicitis. This was confirmed upon admission, and he was immediately laparotomized. It was found upon opening the peritoneal cavity that a circumscribed abscess existed, from which six ounces of pus was evacuated. The appendix formed the outer wall of this cavity. No attempt was made to remove the appendix, the operator believing, as we all do at the present time, that it is better to leave the appendix and simply content oneself with draining the abscess at that sitting. Immediately after the operation the boy was extremely weak, pulse very rapid, and the outlook was very dubious. He rallied somewhat from this condition, but continued to have high temperatures, so that about a week after the first operation the wound was reopened and a search made as to the cause of the continuance of fever and septic symptoms. It was thought that the stump of the appendix, which was still surrounded by some pus, was the cause, and this was removed and the cavity again drained with gauze. In spite of all these precautions the temperature continued between 102° in the morning to 103.6° in the afternoon, without apparent local abdominal cause. I saw the patient for the first time, while taking the service, about two weeks after the operation. His pulse was 160; he was extremely pale; the respirations were 60. When asked if he had any pain, he would deny having any, but upon pressure over the left hypochondriac region he would cry out and say that it hurt him there.

On account of his critical condition it was almost impossible to make a thorough examination. I discovered upon turning him, however, an area of dulness about the size of the palm of the hand, extending from the spine outward, over the left lower lobe of the lung, opposite the ninth and tenth ribs. The anterior edge of the area was in the scapular line. Over this area there were decreased respiratory and voice sounds, and a few fine crepitant râles. I introduced an exploring needle into this area of dulness, believing, as did also my medical colleague, Dr. M. L. Goodkind, that we were dealing with an abscess of the lung

following appendicitis, which had no communication with a bronchus. Exploratory puncture withdrew several drops of extremely fetid pus, similar to the fetid pus which had been evacuated at the time of the opening of the original appendiceal abscess. Upon the following day I resected the ninth and tenth ribs over this area of dulness, and found the left lower lobe adherent at its base to the diaphragm, and feeling rather more solid than normal. I introduced a needle into it, but only was able to withdraw a bloody fluid; but upon inserting the needle a little deeper, noting distinctly that the needle passed beyond the lung and through the diaphragm, I withdrew the same fetid pus as on the previous day. After making a vain attempt to suture the lung to the parietal pleura, and thus wall off the general pleural cavity, I packed in gauze firmly on all sides, and loosened the lung adhesions from the diaphragm, incised the latter close to its left dome, and evacuated about eight ounces of extremely fetid pus from an abscess, which my finger, introduced through the diaphragm, showed me to be situated between the spleen and the left lobe of the liver, just beneath the diaphragm. The abscess cavity was apparently well walled off toward the general peritoneal cavity, so that I contented myself with draining it with gauze, which was removed upon the second day and changed. In spite of the precaution of attempting to wall off the general pleural cavity, an empyema resulted, which is unavoidable. The boy's extreme intoxication rendered a favorable outcome almost impossible. His temperature after the operation dropped for a number of days, and remained nearly normal, but the high pulse and respiratory rate continued. He died about two weeks after the operation for subphrenic abscess. I was unable to obtain an autopsy.

The third case of which I have spoken above will show you how such a subphrenic abscess can occur when the appendix is directed upward, especially when it lies behind the cæcum and ascending colon, a quite frequent condition in children. Whenever a case of appendicitis continues to show septic symptoms, even after the original abscess cavity has been opened, it should lead one to suspect the event of complications, such as the one I have just described, namely, subphrenic abscess.

Subphrenic abscesses are more frequent complications of appendicitis than has been generally supposed. In a recent paper by Elsberg, from which I will quote extensively, in vol. 34 of the *Annals of Surgery*, he gives a most excellent review

of the subject. He has collected 71 cases, to which he added 2 of his own. Out of 179 cases of subphrenic abscess, collected by Maydl, 23 were secondary to appendicitis. Such a condition may arise first as a portion of a general systemic infection, which is not frequent; secondly, as a localized abscess formation in the right or left subphrenic region, a part of a general suppurative peritonitis, also infrequent; and thirdly, as a local process by direct extension or through the lymph channels from disease in or around the vermiform appendix. This is the most frequent variety. Recalling, again, the third case of which I have spoken, you will readily conceive how easy it would be for pus which lay behind the colon, in an abscess cavity whose upper boundary is the inferior surface of the liver, to migrate a little further so as to be subphrenic in position. In the fourth case, the one of subphrenic abscess complicating appendicitis, the suppuration had evidently extended by direct continuity of tissue from the original appendiceal abscess. It is not necessary in these subphrenic conditions to have actual suppuration around the appendix. Of 73 cases which Elsberg collected, there was an abscess in or around the appendix in 50 cases (68 per cent); no abscess in 7 cases (10 per cent); in the other 16 no details were given. In 23 per cent of these cases the appendix lay behind the cæcum or ascending colon, similar to its position in the third case which I have spoken of. The pus may be situated either within the peritoneal cavity or extra-peritoneally. The latter is not so frequent. The pus is generally thick and of a foul odor. Spontaneous perforation of the diaphragm occurs in about 25 per cent of the cases.

Such a suphrenic abscess may come on after an appendicitis, either after the acute symptoms have subsided, when the patient begins to complain of pain in the lower part of the right chest, with rise of temperature, increase of liver dulness, friction sounds over the hepatic region, and tenderness in one or two intercostal spaces, or secondly, the local symptoms of appendicitis may have subsided, but the daily temperatures begin to take on a remittent type, and the patients begin to lose flesh and strength rapidly. They do not complain of much pain. The most marked symptom is the rapid loss of flesh and strength. No further physical signs may be discoverable until the bulging of the abscess in the lumbar region is found. This is probably the type to which our fourth case belongs, the one in which the subphrenic abscess developed immediately after the appendiceal

abscess had been opened, its chief symptoms being a gradual loss in weight and increasing septic condition. The third manner in which it can occur is that the patient has recovered entirely from the attack of appendicitis, but does not regain his former health. The patient begins to have pain in the right side of the chest, whose origin cannot be discovered. A little later there is the evidence of the presence of fluid under the diaphragm. The first symptom of importance in these subphrenic abscesses is pain in the right hypogastrium, which may begin suddenly or gradually. There may, however, be severe pain in the right scapular region. Accompanying it there are friction sounds, or more or less extensive dulness or flatness on percussion over the area of relative liver dulness. The liver will be found to have been pushed down, and its normal dulness increased. When the subphrenic abscess contains gas, the diagnosis is generally more easy because of the liver dulness being replaced by tympany. When it does not contain gas, the question may arise as to whether one has not to deal with an effusion into the right chest. With a beginning pleural effusion there is usually rapid respiration, cough, and expectoration. The level of dulness is generally concave upward. When there is a well marked effusion under the diaphragm, there are usually no thoracic symptoms. The upper level of dulness is a straight line, or is convex upward. When perforation of the diaphragm occurs it is characterized by the sudden appearance of symptoms of invasion of the pleural cavity, cough, rapid respiration, expectoration, and frequently sudden collapse.

The differential diagnosis between subphrenic abscess and abscess of the liver is often very difficult, and sometimes impossible, before operation. Abscess of the liver, however, is much more rare after appendicitis than is subphrenic abscess.

In 73 cases, collected by Elsberg, the total mortality was 40 per cent. Eleven cases died with operation, and 18 without operation. The total cures were 60 per cent; 40 cases cured with operation (55 per cent), and 4 cases cured without operation.

In regard to the treatment of such a complication of appendicitis, it need hardly be said that after these statistics have been given the prognosis will improve in a direct ratio with the rapidity with which a diagnosis is made, and prompt operative treatment instituted. When an abscess points below the free margin of the ribs or the lumbar region, it should be freely

incised at an early date. If the exploring needle demonstrates that the pus is deeply situated on the upper surface of the right or left lobes of the liver, the abscess will have to be approached by one of two routes: either by the resection of one or other of the lower ribs and incision of the abscess through the diaphragm, but below the reflection of the pleura, or by the transpleural method. The latter is the method which I employed in this case.

HEADACHES.

BY Q. W. HUNTER, M.D., LOUISVILLE, KENTUCKY.

In view of the voluminous literature already existing anent headaches, it would seem not only unnecessary but inappropriate to attempt to add anything; but an impartial review of the salient features of even subjects worn threadbare by previous incessant discussion is sometimes not devoid of interest, hence no apology is offered for this seemingly superfluous addition to the literature.

Headache, *per se,* is defined as pain in the head, denominated according to the portion of the head in which it may be felt, or as to its causation; hence the varieties are almost as infinite as are the remedial measures (some of which will be enumerated later) suggested by the average so-called medical authority for its alleviation, *e.g.,* (1) gouty, (2) malarial, (3) rheumatic, (4) uremic, (5) alcoholic, (6) neuralgic, (7) dyspeptic, (8) anemic, (9) febrile, (10) congestive, (11) menstrual, (12) uterine, (13) nasal, (14) frontal, (15) meningeal, (16) temporal, (17) nervous (migraine, hemicrania, sick-headache), etc., etc. For all practical purposes, however, the older and much simpler classification will suffice, viz.: (1) structural, (2) congestive, (3) nervous, and (4) toxemic. All the subvarieties mentioned can reasonably be considered as coming within the scope of this apparently simple division, and the subject will be briefly reviewed accordingly.

1. Structural headache may result from or be a concomitant of various diseases which attack the brain or its membranes, such as meningitis, cerebral tumor, cerebral abscess, cerebral softening, etc. It must be borne in mind, however, that headache may be entirely absent, that it is by no means an invariable accompaniment, in the disorders mentioned, nor does intracranial pain when present always furnish an accurate index to

the location of brain abscess or tumor; hence the importance of headache in this connection must not be overestimated. But ordinarily it may be presumed that headache having its origin in organic intracranial disease is constant, referred to that particular region in which is located the primary focus of the disorder; but it is sometimes evanescent, intermittent, or entirely absent, even when an organic lesion is palpably and demonstrably present. In structural headache the pain is usually aggravated by assumption of the recumbent posture, or by even stooping or throwing the head forward, which is untrue in most other varieties; but the pain is oftentimes alleviated by elevating the head while the patient is lying down. While there may be no apparent gastric disturbance, nausea and vomiting not infrequently occur in this variety of headache, but relief does not follow regurgitation as is true in some of the other forms. The duration of headache the result of structural change is absolutely an unknown quantity, depending upon the course of the lesion which operates as the primary and essential cause thereof.

2. Congestive headache includes several of the subvarieties already noted, and its origin depends upon congestion of the vascular system of the brain, as its designation implies. The congestion may be either active or passive (so-called), the result of cardiac malformation, hypertrophy, or other derangement of cardiac function, intense mental or emotional excitement, menstrual irregularities, uterine disease, the menopause, dyspnea from any cause, defective action of the hepatic or intestinal apparatus, alcoholism, anemia, exhaustion from extreme mental or physical exertion, general debility, etc. This form of headache is usually accompanied by a flushed face, a sense of fulness in the head, pulsation or ringing in the ears, giddiness on stooping, disordered hearing, and temporary disturbance of vision. All these symptoms may not be observed, but some of them will be found invariably present. The duration and intensity of the pain largely depend upon the degree of congestion, the character of the disorder which acts as the primary causative factor, and the facility with which the latter is relieved.

3. Nervous or sick-headache (hemicrania), the *migraine* of the French, is said to occur only in those individuals who are hereditarily neurotic, a statement which the writer regards as being as untrue as it is misleading. The pain of sick-headache is most often unilateral, as its designation—hemicrania—signi-

fies, though it is sometimes bilateral, general, or diffuse, and more often than otherwise is associated with extreme nausea and persistent vomiting. However, one of the most distressing symptoms occasionally observed is inability to regurgitate the gastric contents, although nausea be persistently present, with the sensation that vomiting would afford relief. In a large proportion of cases headache ceases with thorough evacuation of the gastric contents. The attacks are periodic in character and of uncertain duration, there being no time limit in either instance. Among the supposed exciting causes may be included all those of a depressing or exhausting nature, *e.g.*, prolonged mental work, worry, grief, anxiety, excitement, sexual excesses (?), impure air, improper food—anything in fact which tends to lower the tone of the general system, thereby increasing nervous irritation, may act as a contributory or exciting cause. In most cases of migraine there are observed two distinct stages: (*a*) the stage of disordered sensation; (*b*) the stage of headache with its variable line of symptoms. The premonitory signs presented are usually unmistakable, but occasionally there may be observed nothing by which the onset of the disorder can be recognized, the most noticeable of the disturbed sensations being a transient ocular phenomenon, described as a wavy glimmering which commences near the outside corner of the visual field, spreading thence over the entire area in a zigzag outline; or it may commence by the appearance of a blind spot near the center of vision, which soon spreads, showing a serrated margin. Chilliness of the body, especially the hands and feet, is ordinarily present; there is nervous irritability, mental depression, and what is popularly designated as "fidgets" is a prominent concomitant. These conditions persist for a variable length of time (thirty minutes to several hours), when the second stage (headache) supervenes. As pain increases ocular disturbance declines, and nausea, retching, and vomiting occur, the head throbs, movement aggravates the suffering, and any attempt to assume other than the recumbent posture augments gastric uneasiness; the face is pallid, the head hot, pupils contracted. The duration of this stage is likewise variable; in fact the average cannot be accurately approximated—it may be three hours or twenty-four, depending upon circumstances governing each individual case.

The scope and intent of this dissertation scarcely permit of even limited discussion of intricate pathological problems, but a

few outlines may not be uninteresting. There has been considerable controversy relative to what is the true pathology of migraine, and the question still remains *sub judice,* at least so far as the opinion of the writer is concerned. Formerly it was regarded as being dependent upon gastric or hepatic derangement, but this view is clearly untenable in the light of modern investigation. Some pathologists claim that it is a species of neuralgia, and while it is admitted that in many respects migraine resembles neuralgia, yet a knowledge of the distinctive features appertaining to the two disorders should be sufficient to insure a clear differentiation. One author declares that the affection is to be referred to the sympathetic nervous system, and states that if by fatigue, anxiety, or other depressing influence the general tone of the body be lowered, and with it the regulating or inhibitory power of the cerebrospinal over the sympathetic nervous system be impaired, then uncontrolled action or excitement of one or more portions of the latter takes place, causing contraction of the blood-vessels under the influence of the affected portions, and so producing the disorders of sensation which precede the headache; this excitement is followed by exhaustion or paralysis of the sympathetic, and is associated (just as would be the case after section of the nerve) with dilatation of the vessels, and with headache. Another equally eminent authority contradicts the foregoing and maintains that the phenomena are those of a nerve-storm traversing more or less of the sensory tract from the optic thalami to the ganglia of the vagus, or else radiating in the same tract from a focus in the neighborhood of the quadrigeminal bodies!

4. Toxemic headache is used to designate the cerebral pain which accompanies all febrile and inflammatory diseases, and includes several of the subvarieties hereinbefore mentioned, *e.g.,* gouty, uremic, rheumatic, neuralgic, etc. While in some measure it may be said to be due to cerebral congestion, its chief causative factor is the action of vitiated blood—altered in character by the morbific elements circulating therein, and perhaps elevated in temperature—on the nervous mechanism of the brain. This form of headache may also result, as its designation suggests, from intestinal and renal (uremic) toxemia, likewise from inhaling impure air or the poisonous products of gas combustion, and from syphilitic affections of the cranium. The duration and intensity of this variety depend almost entirely upon the *materies morbi* concerned in its causation.

With special reference to the treatment of headaches in general there is much which might be stated, but at best it would be a reiteration of facts already known, and to do so would unduly prolong this desultory contribution; therefore only outlines concerning remedial measures will be considered, and these epitomized. The rational treatment of any form of headache must necessarily depend upon the peculiarities of each individual case, and where cerebral pain is merely an integral part of the symptom-complex it naturally follows that remedial measures should be directed toward alleviation of the derangement which constitutes the primary and exciting cause. If cardiac, gastric, renal, uterine, catamenial, intestinal, or other demonstrable disease be present, the indications for treatment may be easily outlined; likewise if the cause be congestive, anemic, or toxemic in character, the indications are equally apparent. But if the *fons et origo mali* be intracranial, then the problem is not so easily solved.

(*a*) The treatment of headache due to organic cerebral change is an exceedingly difficult matter to outline, as much depends upon the general indications in each individual case. If pain be intense and persistent, and cerebral abscess or tumor be definitely demonstrated, surgical intervention is advised. If this be not permitted, then iodides and mercurials should be prescribed; and the administration of these drugs is likewise indicated in headache of meningeal origin, also that due to syphilis. Counter-irritation has been employed with signal benefit.

(*b*) Anything which tends to relieve vascular congestion will aid in alleviating headache due to that cause. Hot (mustard) foot-baths and hot applications to the head are valuable; the bromides, cannabis indica, morphine, and active saline purgation may assist in producing desired results. Congestive headache may not infrequently be completely relieved by a hot general bath followed by active friction. Of course if cardiac, hepatic, renal, or other disease be present, appropriate treatment should be instituted. If the patient be anemic, strychnine, iron, manganese, nutritious diet, etc., are recommended. In headache due to debility a general reconstructive treatment is indicated.

(*c*) The first preliminary requisite in the management of nervous headache is to improve general nutrition by adequate constitutional treatment. The diet should be carefully regulated, all dietary errors corrected, the food ingested should be of a

character easily digested, assimilated, and above all highly nutritious. *Pari passu* with improvement in general condition of the individual the tendency to sick-headache diminishes. As to the exhibition of medicinal agencies after inception of the attack, the aid of nearly every drug mentioned in the Pharmacopœia has been invoked, and it would require too much valuable space to even enumerate them. Morphine, chloral hydrate, caffeine citrate, camphor monobromate, cannabis indica, menthol, valerian, the bromides, antipyrin, antikamnia, the iodides, chloretone, codeine, phenalgin, citrophen, are among those most often recommended, and while this list appears formidable it does not include half the preparations that have from time to time been suggested for relief of migraine. The dangers attending repeated exhibition of morphine, under any circumstances, are too well known to require emphasis, and risks not dissimilar attend administration of some of the other drugs enumerated. In the opinion of the writer chloretone, a product from the laboratories of Parke, Davis & Company, Detroit, Michigan, should be accorded a prominent position on the list of medicinal agents indicated in the treatment of sick-headache. Its action is prompt and efficient, and its administration is not attended or followed by disagreeable or unpleasant results. Chloretone is certainly an exceedingly valuable acquisition to our armamentarium in the management of this sometimes intractable affection.

(*d*) The treatment of headache due to toxic influence will necessarily depend upon the nature of the causative factor. If it be malarial, quinine, iron, arsenic, and the bitter tonics are indicated; if gouty or rheumatic, the bromides or iodides, lithium, Vichy waters, and antacids generally; if dyspeptic (gastric or intestinal toxemia), gastric lavage and high enemata may be of service, likewise the administration of dilute nitromuriatic acid, nux vomica, or bicarbonate of soda; if uremic, eliminants such as potassium acetate, infusion of digitalis, and saline cathartics are useful. One of the most persistent varieties of headache in the entire category is that arising reflexly from intestinal toxemia, and the primary indication is to promote elimination and stimulate the digestive, assimilative, and nutritive functions—*i.e.*, to thoroughly open the *primæ viæ* by appropriate medication, and by the exhibition of intestinal antiseptics keep the gastrointestinal canal in a healthy condition.

Other forms of reflex and sympathetic headache are ocular,

nasal, uterine, diabetic, neurasthenic, hysterical, chlorotic, etc., and to specifically describe the rational indications for treatment in each variety would prolong this article beyond reasonable limits.

ANEURISM OF THE AORTA.

BY CHARLES L. MIX, M.D., CHICAGO, ILL.

The patient whom I have to show this evening is a man, forty-nine years of age, who came to the Post-Graduate Clinic a week or so ago with the information that he had heart disease, and desired to get a little benefit, if it was possible for us to give him any. He informed me that about three months before he was suddenly seized with an attack of severe pain in the left side, clearly paroxysmal in character. Personally he regarded it as pleurisy. The pain did not extend down into the arm. This attack persisted for a little while, disappeared, and then recurred after a time. He has had three paroxysms altogether. In addition to that he has been troubled with a certain amount of dyspnea.

We did not bother about getting the history, but as soon as he had removed his clothes and I had seen his chest, I asked him if he had ever had specific trouble, and he told me that he had. If you will stand at the patient's side and put your hand against this region (indicating), you will feel a heave. Curiously enough, if you put your hand upon his chest and expect to feel a thump, you do not feel it; the only thing which you do feel is a heaving, which you can also readily see. This shows that the maximum amount of aneurismal disturbance is on the right side of the chest. You know the old rule, the nearer the heart the more frequent the aneurism. But, curiously enough, the aneurisms which have been shown to-night have been far from the heart. Here is one which evidently lies near it. Furthermore, there is dilatation of the venules, which one sees in cases of adhesive pleurisy, in some cases of mediastinal tumor, pericarditis, and sometimes in emphysema. In this instance they are scattered well around the chest.

So far as dulness is concerned, you readily see how dull this area here is (indicating). It is absolutely dull. It is hardly necessary for me to map out the absolute line of dulness. The apex beat is outside of the nipple line, suggesting hypertrophy, dislocation, or dilatation, and probably in this case there may

be all three present. The hypertrophy, which is secondary to arteriosclerosis, which was a primary affair, is probably of some years' standing. The dilatation may be due to a certain amount of myocardial trouble, which is beginning to develop in the heart tissue.

When we feel the radial arteries, we find conditions the reverse of those that have been mentioned in the previous cases. In all three preceding cases the left radial was weak, caused by the aneurism producing either pressure or distortion of the subclavian artery, thereby weakening the radial pulse. In this instance it is the right pulse and the right carotid which are weak, because the distortion which has taken place in the aorta has involved the opening of the innominate artery, thereby decreasing the strength of pulsation. In the other cases shown, although nothing was said about it, I should think that inasmuch as there is in each case pressure by the aneurism upon the left bronchus, there must be definite respiratory changes on the left side of the chest. This patient does not show them; on the contrary, he shows weakness in breathing on the right side, and this is curious on this account: The ascending portion of the aorta has the pulmonary artery in front of it; behind it lie successively the right auricle, the right pulmonic artery, and the right bronchus; so that it is difficult to see how there can be reduction of breath sounds upon the right side of the chest in aneurism of the ascending aorta. Nevertheless, he seems to show it. In all classical descriptions of aneurism the reduction of breath sounds is on the left side in all those cases in which the aneurism is situated at the transverse arch or in the descending portion.

This patient shows a certain amount of delay in the radial pulse on the left side, due to the aneurism of the ascending aorta. The tracheal tug is slight. You can barely get it, on account of the fact that the transverse arch is not involved, but rather the ascending portion. If the transverse portion is involved, hooking around the left bronchus as it does, it gives a first-rate tracheal tug.

Aside from what is found on inspection and percussion, auscultation yields very little. There are no murmurs, and in this respect the case resembles the one shown by Dr. Billings. It is a fact that many aneurisms are not attended with murmurs, and this is one of them. Moreover, one does not always hear in aneurisms any diastolic accentuation, many existing without it. In some cases you hear only two dull sounds; in others you hear

nothing, such a case resembling mediastinal tumor. The cough is characteristic, and by its qualities alone it might safely be judged that he is suffering from aneurism or from some laryngeal trouble. We have not made an examination of his vocal cords; that could be done, but it would be only a refinement in diagnosis. The cough is not due to pressure upon the left recurrent laryngeal nerve, but is more likely due to possible involvement of the right laryngeal nerve as it passes around the right subclavian artery, because in some of these cases aneurism of the ascending aorta produces laryngeal disturbance through the right, and not through the left, recurrent laryngeal nerve.

So far as the possible diagnosis of mediastinal tumor in this case is concerned, I must say I do not think it holds, in view of the presence of a typical pulsating tumor. Furthermore, if you compare the radial pulses you will note a difference not easily explained by the hypothesis of a mediastinal tumor. Moreover, in this case there are no particular signs of pressure from mediastinal tumor in the sense of unilateral edema or cyanosis.

There is a certain amount of fulness here above the clavicle, which possibly can be regarded as due to secondary aneurismal disturbance, which has long since been described. Aneurisms frequently press upon the innominate veins and produce a certain amount of turgidity in the innominates as far back as the valves of the internal jugular and the valves of the subclavian, as is well illustrated in this case. It will be recalled that signs of pressure upon the right bronchus were noted in auscultation of the chest. Very possibly the pressure of the aneurism upon the right auricle explains the abnormal fulness of both innominate veins, and the bulging of the supraclavicular spaces.

Dr. Collingridge, medical officer of health of London, draws attention in his annual report to what he calls "permissible milk adulteration" in London. Of forty-eight authorities whose opinions were collected, thirty-one had adopted in practice various minimum limits of water adulteration. The list extends from 2.4 per cent limit of added water to 7 per cent, sixteen authorities fixing the limit at 5 per cent. Of the other seventeen authorities some prosecuted if below the standard, others considered each case on its merits, some were guided by the opinion of the analyst, two fixed no limits, and one did not allow added water at all.

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EDITORIAL ARTICLES.

DIET IN NEPHRITIS.

The lack of uniformity among authorities as to the dietetic régime to be followed in cases of nephritis has, it is to be feared, led to some laxity in the conduct of cases. Koster, a Russian clinician, has lately made some interesting investigations, and has arrived at certain conclusions which, while not perhaps incontrovertible, at least possess the merit of being definite and precise as rules of action. This observer's investigations were based upon clinical experiments which subjected the invalid to at least seven days of special dieting.

He maintains that in acute nephritis the patient must be subjected to an absolute milk diet until the cessation of the acute symptoms. A milk diet must also prevail at the onset of uremic phenomena, and also where uremic attacks occur as incidental to the progress of chronic nephritis. In caring for a case of chronic nephritis the diet should first be milk or milk and vegetables. When, however, the excretion of albumin and urinary sediments has attained a fixed standard, the régime can without danger be varied and meat given. This latter rule is sound for all varieties of nephritis except amyloid forms, in which severer measures must prevail. Edema and ascites do not contraindicate mixed dietaries, but suggest prudence in their administration. If blood-corpuscles be found in the urinary sediments, still greater prudence must prevail in the administration of meat. Whether white or red meat be used appears to be a matter of indifference, in spite of popular opinion to the contrary. This is important to remember when variation in dietary is demanded. It is wise after several days of meat diet to revert to a milk diet for a short time. A marked diminution

of the albumin excretion sometimes results from this, and this diminution can be often permanently sustained. Albumenoids in the course of assimilation seem to favor the albumin excretion in the urine. The morning urine is therefore usually less rich in albumin than that of the afternoon. There are, however, individual variations in this respect. The custom still followed, however, by many practitioners of examining the night urine alone is likely to mislead, as in many cases this does not convey the pathological indications of the day urine.

Latter-day medical thought has made no striking changes in the well established dietetic doctrines prevailing in the care of nephritis, but slight modifications based on actual clinical observation are not the less worthy of consideration and regard.

EDITORIAL NOTES.

Water Filters Dangerous.

The almost absolute worthlessness of water tap filters is shown in a recent number of the Chicago Health Bulletin, which says: "The common tap filters are not only worthless but are actually harmful because they do not stop any of the bacteria—only the organic matter, such as vegetables and animal detritus. Now when the water is shut off, a few bacteria remaining upon this animal matter find it to be a suitable food, and as a result they increase enormously in numbers, so that the next water drawn through the tap filter washes them out; and the longer such a filter is used the more bacteria are found in the water which it filters. Stone or porcelain filters are of value, but only if properly cleaned. During the first few hours such a filter is used, the bacteria being so small pass through the pores of the filter. These pores finally become clogged with bacteria. Then, after a number of hours, depending upon the pressure, the water will be free from bacteria, but after a day or so the bacteria grow through the filter and the water is again contaminated. Therefore, the first water coming from such a filter should be rejected and the filter itself should be boiled and thoroughly cleansed every two or three days."

It is thus shown that filters at best are unreliable, and that in times of epidemics of water borne diseases are really dangerous owing to the false security they give to those who depend upon them for safety.

Low Infant Mortality of Japan.

A recent traveler from the Orient has shown that the infant mortality of Japan is lower than it is in Europe or America. This is as it should be in a country where the houses are off the ground a foot or two and have no cellars, and the air inside is as fresh as it is out: where, too, in such places at least as Tokio. every one bathes and has a good scrubbing every day. From 800,000 to 1,000,000 persons go to the public baths of the capital daily, and that in a town with a population of less than 2,000,000. The extreme cleanliness of the Japs undoubtedly has a great deal to do in keeping the death-rate among children so low.

Physicians' Aid Associations.

The recent report of the New York Physicians' Mutual Aid Association, which is now in its thirty-fifth year, shows that organization to be in a very prosperous condition, with a membership of nearly 2000. This association has on hand as a permanent fund nearly $50,000. Much good has been done by this organization in relieving its members during periods of illness, and in paying the families of its deceased members $1000 each. These aid societies ought to be formed in other States, for on no other class of professional workers does sickness fall so heavily as upon medical men.

Overcrowding the Profession.

The crowded condition of the medical profession, together with the large number of quacks that are at present allowed to prey upon the people, has caused the regular profession of Germany to issue a circular warning young men from entering upon medicine as a career. Such conditions do not as yet obtain in this country, but the profession is attempting to keep its ranks from being overfilled by rendering it more difficult each succeeding year for young men to obtain entrance to medical colleges.

ITEMS AND NOTES.

Work has begun on the new $50,000 quarantine hospital at Buffalo.

Reports from Mexico say the republic is practically free from yellow fever.

Sixty new cases of typhoid fever were reported to the Health Department of Cincinnati last week.

The seventeenth annual session of the French Congress of Surgery will be held at Paris October 17 to 19.

During 1903 Boston cared for 14,281 sick people, 11,693 being acute cases and 2588 brain diseases—*i.e.*, insane.

Robert Koch will retire October 1 from the position of director of the Institute for Infectious Diseases at Berlin.

The Chicago Department of Health in its current Bulletin claims that Chicago is the most healthful large city on earth.

Sir John Simon, K.C.B., former president of the Royal College of Surgeons and of the Royal Society, died in London on July 23.

Dr. Vollbrecht, of Darmstadt, Germany, accepted the invitation of the Sultan of Turkey to take general charge of medical affairs in Turkey.

M. Doyen, the well known surgeon, is a candidate for a seat in the Chamber of Deputies as representative of one of the arrondissements of Paris.

Prince Oscar, the youngest son of the German Emperor, is said to be suffering from an affection of the throat, probably tuberculous in nature.

Antoin Chechoff died at Badenweiler, Germany, on July 15. He was a physician, but his reputation throughout Russia was as a literary man.

Emmanuel's Hospital was formally opened July 14. The institution will accommodate twenty, and is under the charge of Dr. Duffalloschotthower.

The degree of doctor of laws was recently conferred upon Dr. William Osler by Harvard University, and upon Dr. William Halsted by Yale University.

The new St. Francis Hospital, Kewanee (Illinois), which has been erected at a cost of $100,000, was dedicated on July 24 with impressive ceremonies.

The total number of deaths in Michigan reported to the Department of State for the month of June was 2445, a decrease of 492 from the preceding month.

The American Neurological Association will hold its next annual meeting at St. Louis on September 15, 16, and 17, 1904, under the presidency of Dr. James W. Putman, of Boston.

According to a statement issued by Dr. Edward Martin, Director of the Department of Public Health and Charities, the city of Philadelphia is, for the first time in three years, free from smallpox.

The fortieth anniversary of the introduction of subcutaneous injections of calomel in the treatment of syphilis was celebrated recently in Italy. A committee consisting of Drs. Domenico Maiocchi, Ambrogio Bertarelli, and Mario Truffin, with Professor Camillo Golgi, Rector of the University of Pavia, as honorary president, presented a gold medal to Dr. Angelo Scarenzio, to whom is attributed the invention of the method.

Dr. E. R. Rost, I.M.S., is reported by an exchange to have prepared a specific remedy for leprosy, similar in its mode of elaboration to tuberculin, which he calls "leprolin." At the present time over one hundred cases of leprosy are now being treated in Burma by injections of leprolin, and the treatment is also being tried in other places in India. Dr. Rost claims that four of the one hundred patients treated in Rangoon have been cured, and in the great majority of those still under treatment the improvement is marked. Rich cultures of the lepra bacillus, for the preparation of leprolin, are obtained from bouillon deprived of its sodium chloride and other salts.

Recently, says an exchange, several foreign missionary societies in this country and England agreed to establish jointly a school of high rank in China for the instruction of natives in

the principles of modern medicine and surgery. In accordance with the scheme a medical college is now under construction. The cost is estimated at $50,000. Toward this the Dowager Empress has contributed about $6000. Subscriptions are now being sought from high Chinese officials, who are expected to follow the example of the Empress. There will be a five-year course, and the school will have authority to confer the degree of doctor of medicine upon students who complete this course and pass the examination successfully. The training will be regardless of creed, but the bulk of the students will be naturally Christians.

Koch's ideas in regard to the prevention of the spread of typhoid fever by stamping out each focus have been carried out, according to an exchange, on a large scale in Alsace-Lorraine and other western provinces. Five bacteriologic stations were organized at various points. The superintendents of these stations, with other specialists and physicians of the region, met at Berlin June 29 to ascertain what had been learned and accomplished in regard to the eradication of the foci of typhoid fever. The assemblage was unanimous in decreeing that persons exhibiting typhoid bacilli in the urine or stools, with or without other symptoms or in apparent perfect health, should be isolated, if convenient, and if not, at least their excreta should be disinfected, as also their bed and body linen. The assemblage included R. Koch, Gaffky, Kruber of Munich, and Forster of Strasburg.

The *New York Tribune* says that army medical officers will make important tests in medical supplies transportation in the course of the joint maneuvers of the army and militia in September at Manassas, Va. They contemplate the employment of the army mule as a means of getting to the firing line the supplies for the first dressing station. Hitherto these supplies have been carried in ambulances, but of course that vehicle cannot break into columns of troops, and there are places in a rough country where troops are apt to be operating that the ambulances cannot go. In the Santiago campaign there was great difficulty in transporting these supplies, and about the only means of getting them to the front was on the backs of the hospital corps men. This, of course, was unsatisfactory and operated as a hardship to the hospital stewards. It is believed that the army mule can go wherever troops are stationed, and this facility will add to the efficiency of the medical department in the field.

The climate of the west coast of Africa has always been renowned for its deadliness, and much has been written concerning it in the medical and lay press. The *British Medical Journal* has recently published an article by a correspondent on the life and its risks there. Special emphasis is laid on the poor condition of the dwellings in which government officials have to reside, and the want of opportunities for relaxation and amusement. There is a considerable amount of truth in some of the statements, but after all one must remember that the pay is high and leave is better than in other tropical colonies. Much of the disease which used to exist can now be avoided if people will follow out a careful mosquito prophylaxis based on the recent researches into the etiology of malaria, and there is not the slightest doubt that the sanitation and health of the coast is improving year by year.

Helmboe, of Norway, stated at the recent international Antituberculosis Conference, says the *Journal of the American Medical Association,* that small sanatoria were being constructed in the various communities in his country and temporary aid supplied to families fighting tuberculosis, the funds being derived from the profits of the government monopoly of the liquor trade. Brouardel, of France, stated that the French Antituberculosis Federation now groups thirty-eight different organizations or institutions founded by private initiative, besides the public institutions. A committee comprising von Schrotter of Germany and Landouzy of France was appointed to draw up a general schedule for study of the predisposition to tuberculosis, so that physicians of all countries can work along identical lines. Leon Derecq was entrusted with the task of preparing a model of what he calls the individual sanitary pass-book (livret sanitaire individuel populaire). Details in regard to diseases, environment, etc., are to be noted down under proper headings, thus forming the nosologic tree of the family and individual, like the genealogic tree. The advantages of special antituberculosis dispensaries are being proclaimed more and more. The one founded by Calmette at Lille is serving as a model, and others are now planned at Berlin and elsewhere in Europe. The Germans have coined the term "Fursorgestellen" for them. They are not intended to conflict with any of the measures and institutions already in existence, but merely to try to do what they necessarily leave undone. They require the coöperation of charitable persons or societies in order to accomplish their aims.

NEW PUBLICATIONS.

REFERENCE HANDBOOK OF THE MEDICAL SCIENCES.

The concluding volume of the Reference Handbook brings to a noble end the great work, which has been appearing volume by volume for an extended period of time. The series as a whole comprises a medical library in itself, covering not only purely medical subjects but those of allied sciences. The present volume contains many articles of high value, especially those on urine and yellow fever, but it would be unjust to make invidious selections, when so much is included of universal interest.

The Reference Handbook is a valuable addition to the physician's library, as it will place him beyond the need of a wide range of special manuals, and thus prove an economical investment.

A Reference Handbook of the Medical Sciences. By Various Writers. A New Edition, Completely Revised and Rewritten. Edited by Albert H. Buck, M.D., New York City. Volume VIII. New York: William Wood & Co.

INFANT FEEDING.

A second edition of Dr. Chapin's excellent work on infant feeding is only what might be expected from the popularity the work has enjoyed. The important discoveries pertaining to cow's milk which have recently been made, and the knowledge of the nature of the changes that take place in the digestion of milk, have made the revision and the rewriting of much of the text necessary.

The work is one which will appeal to student and practitioner as possessing in eligible form the essentials of this important part of pediatric science.

The Theory and Practice of Infant Feeding, with Notes on Development. By Henry Dwight Chapin. Second Edition. New York: William Wood & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Thoracic Surgery.

Von Mikulicz (*British Medical Journal*, July 16, 1904) speaks of the experiments which have been carried out at his instigation in connection with the prevention of pneumothorax. He says the reason why thoracic surgery has not been able to find a place in modern surgery, like that of abdominal surgery, is that as soon as the pleura is opened the lung collapses and is put out of action. The collapse of one lung is a serious condition, and as a rule the other lung also suffers from the occurrence. The pressure inside the chest is always negative, save during the act of coughing, and may be taken to average —7 mm. of mercury. If both pleuræ are opened the subject dies very soon. This production of pneumothorax is the most serious difficulty in the way of thoracic operations, and even in the operation of suture of the heart is the most frequent cause of failure.

Suerbruch undertook to investigate this subject, and as a result of his labors he reported that he had constructed a sort of pneumatic chamber which admitted of the free opening of the thorax without any danger of collapse of the lungs. The experiments were carried out on dogs for the most part. Inside the chamber a negative pressure was kept up by suction, and in the case of the dogs it was found that —10 mm. was sufficient. The whole body of the dog was placed in the chamber save its head; around the neck there was a gutta-percha collar which fitted exactly, but which did not compress the dog's neck. The operator and his assistant were also inside the chamber, while the anesthetist remained outside at the dog's head. Thus the dog was breathing air at the ordinary pressure, while as soon as the thorax was opened the external pressure on the lung remained about the same as under natural conditions. As a matter of fact, instead of collapsing the lung protruded somewhat out of the wound. This protrusion, however, was easy to control. The breathing continued spontaneously and without difficulty. Some experiments were also carried out in a chamber having a raised positive pressure in which the dog's head was kept, but this offered many difficulties. In the first place the chamber was

small, and the anesthetist had to bear the enclosed vapor of the anesthetic. He became so much affected by the chloroform vapor that after twenty minutes the experiment had to be interrupted. With the negative pressure chamber, in spite of this lowered pressure, the operator and his assistant did not feel any inconvenience even after two hours' stay in the chamber. Should it be found that the conditions of the raised pressure through the respiratory passages offer as satisfactory results as the diminished pressure, several methods are mentioned which might be of value. Sauerbruch considers that the diminished pressure has advantages over the reverse order.

Surgical Scarlatina.

A. Hamilton (*American Journal of the Medical Sciences,* July, 1904) presents the following conclusions:

There are about 174 cases of surgical scarlatina reported in the literature more or less in detail, and passing mention is made of many more. Operations and wounds of all kinds, as well as inflammatory processes, are supposed to predispose to scarlatinal infection. Surgical scarlatina is said to differ from medical scarlatina in five ways: (1) The large number of adults attacked. (2) The shorter period of incubation. (3) The mild angina or absence of angina. (4) The fact that the eruption begins at the wound or in some other unusual region. (5) The slightly precocious desquamation. Proof of the existence of a special form of scarlatina occurring in connection with wounds rests upon the large number of cases recorded in which an eruption resembling that of scarlet fever followed some injury, and upon the frequency of epidemics of scarlet fever among surgical cases in the days before complete isolation of fever cases was practiced. Careful examination of the reported cases confirms the view held by most French writers, that the eruption in question is often due to septic infection, and is not scarlatinal, and that the variations of so-called surgical scarlatina from the typical form of scarlet fever are not due to the unusual mode of infection but to the difference in the infectious agent. In the cases in which the disease was undoubtedly scarlatina there is no convincing evidence that the relation between the wound and the scarlet fever was anything more than one of coincidence. The statistics of epidemics of scarlet fever in surgical wards in hospitals lack the necessary comparative statistics

as to the same disease in the medical wards. There is as yet no convincing proof in the literature that surgical scarlatina is anything more than scarlet fever in the wounded.

Walking in the Treatment of Varix.

M. Marchais (*Lancet,* July 2, 1904) contributed a paper in which he said that the methods hitherto adopted in the treatment of varix were directed not to the varix but to the effects produced by it, and that recovery from these effects was likely to be followed by a recurrence of them. The symptoms of fatigue, edema, pain, and ulceration were due to periphlebitis or infiltration round the veins caused and aggravated by venous distention, and edema disappeared if means were employed to accelerate the circulation; the varix was in this way relieved if it was recent, and the general symptoms were relieved if the vein was sclerosed. Physiological observation has shown that walking promotes the flow of blood in the veins of the lower limb, so that walking might be included among methods of treatment to be recommended. The patients soon become tired because they suffer from edema and muscular atrophy, but after the correction of these conditions by the use of massage they can walk at a good pace for two or three hours a day. M. Marchais quoted twenty-two cases in support of his views.

The Best Method of Operating to Effect a Radical Cure of Senile Hypertrophy of the Prostate Gland.

Orville Horwitz (*New York Medical Journal,* Aug. 13, 1904) says experience demonstrates that perineal prostatectomy is of great surgical value and is the most satisfactory method hitherto suggested of reaching the gland in suitable cases. The advantages of this method are: Only a short time is required to complete the operation; owing to the fact that the gland is removed without disturbing the inner capsule, the prostatic plexus of veins is not wounded and the resulting hemorrhage is small in amount; there is little or no shock; and the neck of the bladder is uninjured. On the other hand, in those operated on suprapubically, the gland beginning at some distance from the hand of the operator is removed with difficulty, the operation is prolonged, the vesical neck is injured, and the prostatic plexus of veins is wounded; consequently the hemorrhage is apt to be profuse and the shock is proportionately great.

Suspicious Tumors of the Breast.

J. C. Stewart (*Journal of the American Medical Association,* Aug. 6, 1904) says that there is a lamentable and unnecessary difference of opinion among surgeons as to the treatment of doubtful tumors of the breast.

All tumors in the breast in patients over forty must be considered malignant until proven benign. Most of such tumors demand amputation of the breast with exploration of the tumor, and a complete Halsted operation if there is then doubt as to benignancy.

An exploratory procedure should be planned to avoid contact of cut lymphatics with any tissue left behind, and any chance of dissemination of cancer cells by pressure before the removal of the breast.

X-ray treatment, aspiration, or any but radical treatment is objectionable as causing delay and dissemination.

MEDICINE.

The Effects of Borax and Boric Acid on the Body.

Chas. F. Dight (*Northwestern Lancet,* July, 1904) recently conducted a number of experiments to ascertain the effects of borax and boric acid on the body. He formulates the following conclusions:

1. Borax exerts no specific action on the animal body.
2. Any effect it exerts is because of and by virtue of its mild alkalinity.
3. The sum total of its effects on digestion is not harmful.
4. It exerts no ill effect on the ingredients of the blood.
5. It does not act as an irritant to the tissues generally or locally, nor cause pathologic congestions.
6. By its use nutrition is not impaired.
7. It does not increase proteid metabolism.
8. It is not cumulative within the body.
9. Borax in moderate amount, 2 grammes or more daily, exerts no ill effects on the adult body.
10. In proportion of 0.5 per cent it preserves fresh sweet meat from putrefaction for long periods of time, extending into months; while smaller quantities, even to 0.1 per cent or less, have been shown in practical use to preserve for periods of less duration.

11. Putrefaction once begun is not arrested by it nor its further progress checked.

12. It is not a deodorant, removing from or concealing in putrefying meat its offensive odor.

13. All this is true of boric acid also, except that any effect it exerts is by virtue of its mild acidity.

14. Boric acid may be taken in larger quantities than borax without harm.

15. Borax and boric acid, like anything naturally good, may become harmful when taken in excess.

The Character of Chromatophores.

Leo Loeb (*Journal of the American Medical Association,* July 23, 1904) says the sulphur content of the melanin is very large. From the melanin decomposition products can be obtained similar to the ones obtained from the melanoidins, which themselves can be produced with the aid of acids from proteid substances.

Tyrosin, a radical, present in cell proteids, can with the aid of an oxidative ferment, tyrosinase, be transformed into substances similar to the melanin of sepia, and similar probably to the melanins of vertebrates. It is therefore not unlikely that the production of the pigment of the chromatophores is due to a fermentation causing oxidative and condensation processes in certain decomposition products of cell proteids.

That the presence of chromatophores and of pigment in the cells is not without consequences is shown by the difference in the regenerative power of the white and pigmented skin of the guinea-pig after transplantation. Whether this difference is due to the different degree of absorption of light and perhaps of other rays is yet to be investigated. The theory that all chromatophores are derived from one specialized kind of mesodermal cell, the melanoblasts, is without foundation.

Enuresis in Children.

A. Lewis (*British Journal of Children's Diseases,* No. 2, 1904) says that the diversity of assigned causes, and the varieties of treatment employed for this condition, would suggest that the pathology had not been very carefully studied. He believes that these children are usually either anemic, bilious-looking, or

lymphatic. They are generally not fond of meat, and live mostly on farinaceous and saccharine foods. They are disinclined for exertion or study. They pass enormous quantities of urine at night, of low specific gravity, neutral or alkaline in reaction, and containing deposits of triple phosphates or oxalates. The bladder is probably not emptied until it is full, as the unirritating urine does not give a sufficient call to the central nervous system to waken the patient, but enough to start the necessary reflex for emptying the bladder only.

The author therefore treats these cases by putting them on a rigid antidiabetic diet, from which all starchy foods are excluded. General tonic treatment is given at the same time. After the symptom disappears, starchy food is allowed for breakfast, but at no other time.

In three to four weeks ordinary diet can usually be resumed.

The author does not insist that enuresis is a condition of late rickets, but he does believe that it is a weak bodily condition caused by excessive starchy diet, and associated with inability to properly digest that excess.

Rheumatoid Arthritis and its Relations to Other Diseases.

Dr. McAllister at a recent meeting of the Liverpool Medical Society (*Liverpool Medico-Chirurgical Journal,* June, 1904) read a paper on rheumatoid arthritis and its relation to other diseases; and after referring to a former communication, in which he pointed out the frequency with which the disease takes its origin in some local seat of absorption, such as the nasal mucous membrane, alimentary canal, or some part of the genito-urinary tract, he proceeded to show that other causal factors and associations have also to be taken into account, such as perversions of the thyroid gland, which have been responsible for quite a number of these diseases. Dr. McAllister pointed out how frequently coldness and numbness of the extremities and other symptoms of Raynaud's disease constitute initial symptoms in cases of rheumatoid arthritis, and in connection with this he also referred to the fact that cramps in various muscles are common in its early stages. He quoted several cases which prove that a distinct relationship exists between these diseases, and that even Graves's disease is sometimes associated with Raynaud's disease, and in some measure with the rheumatoid condition. He con-

siders that the poison which gives rise to these diseases is a toxin which is sometimes ergot-like in its action, but that it is varied in its nature, one peculiarity being apparent, however, in that it is incapable of being eliminated by the kidneys and by the skin until its constitution is altered in such a way as to render it capable of stimulating these organs to eliminate them.

The Medical Treatment of Appendicitis.

A. J. Hall (*Medical Record,* July 23, 1904) believes that so many cases recover without surgical interference that therapeutics has not received the credit to which it is entitled. Appendicitis may be treated medically with a fair proportion of as good results as those obtained by the surgeon, and the proportion of recoveries is so large that the physician can safely count upon successfully carrying his patient through the first and second acute attacks. The proposition to operate should be considered in the interval between the second and prospective third attacks. He presents statistics in favor of this view. This includes every variety from the mild "catarrhal" to the severest "pus" cases. His treatment is as follows: Rest in bed; hot poultices to the abdomen; liquid diet, mainly milk, 4 to 6 ounces daily; internally, the arsenite of copper and creosote; no purgatives nor opiates. His conclusions are: (1) The tendency in appendicitis is toward recovery; (2) all acute cases should be treated medically until after mature deliberation it is shown that operation offers a better prospect for recovery; (3) in recurrent cases operation should be advised in the interval after recovery from the second attack.

Herpes Zoster in Croupous Pneumonia.

Riehl (*Münch. med. Wochenschrift,* No. 24) in the last ten years treated 481 cases of croupous pneumonia, of which 129 (28.82 per cent) developed herpes. It was most frequently observed in middle-aged, strong men. The pneumonia of childhood and the aged does not usually develop herpes. It usually manifests itself on the third to fifth day of the disease, and two to four days after crisis sets in. Of the 70 cases terminating fatally only seven showed this lesion. It occurs more frequently in men than in women, and usually breaks out only once. The milder forms of pneumonia are frequently characterized by dif-

fuse herpes; the severe cases seldom evidence this complication. In case herpes appears in old age it is to be regarded as a hopeful sign.

Diphtheria of the Skin in Children.

Adler (*Wiener klin. Wochenschrift,* No. 28) claims that diphtheria of the skin is a specific disease due to the Klebs-Loeffler bacillus and its products. It is possible to infect intact epidermis, although this condition usually occurs when there is solution of continuity or where eczematous changes are present. In cases of primary diseases of the skin without complication of the mucous membranes the resorption of diphtheritic toxin may take place with a resulting postdiphtheritic paralysis. The author therefore urges that all cases of cutaneous diphtheria should be treated early with antitoxin.

Pemphigus of the Esophagus.

Tamerl (*Wiener klin. Wochenschrift,* No. 29) reports a case of a man seventy-one years old suffering for two and a half years from pemphigus facialis who evidenced symptoms of esophageal stricture. The thought of carcinoma of the esophagus occurred, but was not substantiated by passage of sounds. The esophagoscopic image showed a fresh red bleeding surface with raised epithelium and bullæ. Evidently the pemphigus bullæ produced the partial occlusion of the gullet, which resulted in an obstruction to deglutition. The patient recovered during the time of the clinical observation.

Secondary Infection in Tuberculosis.

Sorgo (*Wiener klin. Wochenschrift,* No. 26, 1904) believes the question of mixed infection in tuberculosis is not yet elucidated. The pathological rôle played by the bacteria accompanying the tubercle bacillus has not been demonstrated. He examined 12 cases of phthisis accompanied by fever, 10 of which gave negative results as to a secondary infection. The fever in tuberculosis may be due to the varying virulence of the tubercle bacilli or the toxic action of the albumoses which are found in the sputum.

THERAPEUTICS.

The Treatment of Hay-fever.

R. W. Parsons (*Medical Record*, July 16, 1904) says that in the treatment of hay-fever opium in all its forms should be avoided. It should be used only as a last resort, and after all other means have been given a fair trial. Cocaine also should be avoided. We should always bear in mind that the cocaine habit may be formed by its use in a spray. In a large number of cases it will be found that the use of the suprarenal gland, both internally and locally, will give as much relief as was formerly obtained by the use of cocaine.

Patients should be advised to abstain from the use of tobacco during the exacerbation of hay-fever. It has a tendency to produce irritation of the mucous membrane of the respiratory tract, and to aggravate any chronic inflammatory condition that may exist. We should also advise our patients not to indulge in alcoholic stimulants.

In giving directions to our hay-fever patients concerning their diet, mode of life, etc., it will be well to instruct them to avoid walking too fast and getting overheated, especially if the weather be warm and damp or foggy, as under these circumstances asthmatic symptoms are apt to be aggravated. They should also be cautioned against cooling off too quickly or exposing themselves to draughts.

In conclusion the writer says that if the patient can be induced to live in a hygienic way as regards diet, baths, ventilation of sleeping-room, exercise, etc., and will carefully carry out the directions of his physician, his attack of hay-fever may be considerably mitigated; and his condition will be still further ameliorated if he can be persuaded to submit to the necessary rhinological treatment. With patience and perseverance on the part of both physician and patient it is certain that considerable, and in some cases lasting, benefit may be obtained as the result of treatment.

Gelatin in Infantile Diarrhea.

L. Weil (*Medical Times*, August, 1904) reports excellent results from using gelatin in infantile diarrhea. From 6 to 8 grammes (1½ to 2 drachms)of gelatin daily produced a diminution in the number of stools from one to three. They were of

firmer consistency, did not contain any small masses, and were of normal coloration; from green they turned to yellow on the first day. The drug is useful only in simple gastroenteritis in which the disturbance is limited to stomach and bowel, and where the children are otherwise in good health. In infections or fevers gelatin is without any action; this is especially true in infantile cholera morbus. The action is not bactericidal, as it is well known that gelatin is a splendid medium for bacteria to grow on. It has been proved by animal experiments that if gelatin and a laxative are given simultaneously, or if the latter follow the former, the intestinal action of the laxative is interfered with; if the drug precedes gelatin, the laxative action follows as usual. The author concludes from this that gelatin neutralizes the ferments of the intestine, and that its action in gastroenteritis is due to a neutralization of the toxic products produced by the disease in the intestine.

Some Drugs Useful in Cardiac Affections.

S. Solis-Cohen (*Pennsylvania Medical Journal*, July, 1904) in discussing drugs useful in cardiac collapse says that the first of value is suprarenalin, which may be given on the tongue or injected in any convenient solution under the skin. Its effect is quick and transient. A useful dose is 1/20 to 1/10 grain.

Second is camphor, which may be injected hypodermically in a ten-per-cent solution in sterilized olive oil or in ten-per-cent solution in ether. Exact dosage is unnecessary—about a syringeful, say 20 to 30 minims, can be used. The effect is prompt and usually lasts for some hours.

The third is musk. Unfortunately much of what is sold in the shops for musk consists of the outer covering of the musk grains mixed with a great deal of dirt, and is therapeutically inert. Real musk is expensive, but is therapeutically potent. One must see that the druggist has the real musk in stock and is prepared to dispense it upon prescription, and one must provide himself with a small quantity of the tincture, in order to be prepared for emergencies when a druggist cannot be reached. Five or ten drops of musk tincture given hypodermically exerts a powerful influence in overcoming the tendency to cardiac collapse, and the action of musk is more sustained even than that of camphor. In cases in which a cardiac collapse is suspected to be impending, it is useful to administer five or ten drops of musk

by the mouth two or three times a day, in anticipation and often in successful prevention of such an accident. The camphor solution and the adrenalin should be at hand for use hypodermically in any sudden emergency.

The Treatment of Chronic Colitis.

A paper on this subject was read at the recent meeting of the American Therapeutic Society by J. Shoup. He outlined the treatment as follows:

Treat the attack of pain which precedes the passage of mucus by a hypodermic of morphine with atropine, and promote thorough evacuation of the bowels by giving large doses of castor oil by the mouth and high enemata of oils or alkaline solutions. Prescribe a carefully selected diet to suit the individual case, after a chemical examination of the stomach contents has been made. Assist digestion and allay fermentation. Keep the bowels open by oils given by the mouth (the oil acts both as laxative and lubricant). Apply a suitable support to overcome any ptosis of the abdominal organs. Treat locally by astringent enemata and oils. Secure rest in the recumbent position, and where practical, change to the air of mountain or seashore.

Morphine in Cardiac Diseases.

Grassmann (*Münch. med. Wochenschrift,* No. 28) is opposed to the prevailing idea that morphine given in therapeutical doses is to be considered a cardiac poison. In cardiac weakness and acute diseases of the respiratory organs complicating it, as well as in acute processes of the endo- and myocardium, it is to be employed cautiously. In neurosis of the heart, as also in cardiac asthma, it may be used with impunity. It is also indicated where the action of digitalis failed, or as a preparatory medicament before the use of digitalis in excitable patients suffering from insomnia.

Vibration Massage in Treatment of Chronic Prostatitis.

L. Schmidt (*St. Louis Courier of Medicine,* July, 1904) speaks of the importance of the prostate in its influence on the facultas generandi and cœundi. In the treatment of chronic inflammations of the organ he refers to mechanical appliances in

using vibration massage, for which purpose electric motors with various attachments for controlling intensity, number, and character of vibration impulses are used. Cases receiving greatest benefit are: (1) where mental condition is influenced by prostatic results; (2) where there are small inflammatory foci; (3) isthmical inflammations combined with old inflammations in the prostatic urethra; (4) simple sexual exhaustion.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Epithelial Cystoma of the Conjunctiva.

E. L. Oatman (*Archives of Ophthalmology*, No. 2, 1904), in discussing the progressive steps in the development of epithelial cystoma, says that as a result of some inflammatory or other tissue irritant the deep epithelium of a crypt or fold in the conjunctiva proliferates and forms the cellular masses in the subconjunctival tissue. There is also an inward proliferation of the surface epithelium, irrespective of surface indentations. The latter process is probably a secondary one. In this the tumors are carcinomata, and have been reported as such.

The central cells of an ingrowing epithelial mass undergo degeneration, thereby creating a cystic cavity containing a mucoid material. Growths in which this condition predominate have been termed "gelatinous cysts."

The mucoid material may undergo a process of liquefaction and a serous cyst result.

Secondary cysts are formed from the walls of the primary cysts by the outgrowth of epithelial folds and follicles, in which the original process of cyst formation is repeated.

As observed clinically, an epithelial cystoma may present one or all of the above described conditions.

Conjunctival growths heretofore reported as epithelioma in children, gelatinous cysts, non-malignant cylindroma, the majority of serous cysts occurring on the ball and tarsus, and some pterygium cysts, were probably in most instances cases of epithelial cystoma. Cysts of Krause's glands and lymphatic cysts should be carefully differentiated from epithelial cystoma.

The Association of Cataract with Uncinariasis or Hookworm Disease.

A. W. Calhoun (*Ophthalmic Record*, April, 1904) has observed the association of cataract with uncinariasis in five cases. Lens changes began six to twelve months after the appearance of the first symptoms of the general disease. In all cases the ova were found in the stools. Operation in a number of cases was followed by an uneventful recovery.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

The Limitations of Caesarian Section.

A. Zinke (*British Gynecological Journal*, May, 1904) analyzes the conditions calling for Cæsarian section and arranges his results in the form of a chart. He points out that the maternal and fetal mortality, apparently still very high, is not due to the operation in itself nor to the cause for which it is performed, but rather to long delay, previous futile attempts at delivery, lack of skill and experience of the operator, and imperfect preparations of the patient and her surroundings. He prefers Cæsarian section to induction of premature labor.

Cæsarian section at term he considers is absolutely indicated by: (1) A uniformly contracted pelvis with a conjugate vera below 6½ centimeters; (2) an obliquely contracted pelvis if the contraction is very great; (3) a simple flat, rachitic pelvis with a conjugate vera below 6½ centimeters; (4) tumors of the uterus, ovaries, or of the soft or bony parts of the pelvis, when their presence and situation are such that the child cannot pass through the parturient canal at all, or cannot do so without great danger to the mother, and when the tumor cannot be removed; (5) excessive anteflexion of the uterus, due to ventral fixation; (6) excessive retroflexion when complicated by fixation or impaction of the fundus; (7) advanced carcinoma of the cervix, vagina, or rectum; (8) the death of the mother if the child be living; (9) extensive cicatricial contractions of vagina and cervix; (10) perforating injuries of the uterus.

Cæsarian section may, moreover, be necessary: (1) In a uniformly contracted pelvis, with a conjugate vera above 6½

centimeters, or in an obliquely contracted pelvis, in consequence of the amount of the contraction, or of the size of child, and for the same reasons in a transversely contracted pelvis; or in a simple flat, rachitic pelvis with a conjugate vera above 6½ centimeters; (2) in threatened rupture of the uterus when forceps have failed or cannot be applied and version is too dangerous; and (3) in advanced disease of the heart, lung, kidney, etc., in placenta previa, in detached placenta, and in eclampsia, during the period of viability or at term, when the os is very rigid or the cervix elongated and hard, or when the attitude of the child is unnatural, rapid delivery is imperative, and shock as well as hemorrhage to be avoided.

Cæsarian section is contraindicated for three reasons, and only in the absence of the absolute indication: (1) When the life of the mother or child (or both) has been fatally compromised; (2) when the child is dead; (3) when sepsis is present and general infection cannot be avoided.

Hematuria in Pregnancy.

I. Kubing (*British Medical Journal*, July 16, 1904) relates how a woman aged thirty-two had an attack of vesical hemorrhage after lifting a weight when in the eighth month of her seventh pregnancy. Then followed attacks of retention, and nothing but blood came away through the catheter. The patient on the third day was admitted into the hospital in a state of acute anemia and very restless. A swelling as big as two fetal heads lay in front of the gravid uterus, it contracted in parts occasionally, and at each contraction blood escaped from the urethra. The abdomen was distended, and singultus and vomiting were present. No blood could be drawn off by the catheter. The urethra was dilated, a very large recent clot was discovered and broken up, which was followed by a quantity of fetid blood, broken-down coagula, and lastly several pints of stinking urine. No morbid condition could be detected on the inner wall of the bladder by palpation, but afterward the cystoscope was used, as it had already been observed that the patient had numerous subcutaneous varices, and then the vesical hemorrhage was traced to the rupture of a varix in the submucous tissue of the bladder. The catheter was retained for twenty-four hours, the bladder being washed out with a solution of boracic acid. On the next day the patient passed urine spontaneously, and the hemorrhage did not recur.

Syphilis Hemorrhagica Neonatorum.

J. H. Hess (*Archives of Pediatrics,* August, 1904) says the symptom-complex that was described under the title of "syphilis hemorrhagica neonatorum" by the older authors was, with its high mortality and all the findings, laid at the door of syphilis. Since the discovery of various organisms in the blood of these infants, both before and shortly after death, we are led to a reconsideration of the entire subject, as in those cases of non-syphilitic history the question presented is: "Are we dealing with syphilis hemorrhagica or a secondary infection of a syphilitic infant?"

The writer concludes by saying that while the most of our cases of "spontaneous hemorrhage in the new-born" are cases of extra-uterine infection through one of many channels by a non-specific organism, others are directly due to the action of the syphilitic virus and its consequent changes *in utero* on the fetal vascular system, and therefore true cause of "syphilis hemorrhagica neonatorum," illustrated by Mracek's series of cases; while the first variety are better classified as "syphilis hereditaria, with hemorrhage due to secondary infection."

The Blood in Pregnancy.

W. L. Thompson (*Johns Hopkins Hospital Bulletin,* June, 1904) says that a moderate decrease is observed in red blood-corpuscles rather early in pregnancy, remaining subnormal throughout the middle months, to rise again to normal at the termination of pregnancy—not, however, in all cases.

A low percentage of hemoglobin is constant throughout the first seven months, rapidly approaching normal as pregnancy draws to a close.

A slight absolute leucocytosis exists in every case of pregnancy, but this slight leucocytosis does not support the theory that it is due to any positive chemiotaxis.

There is no variation from normal in the different forms of colorless corpuscles, the leucocytosis affecting all forms of white cells alike.

The specific gravity is high at the onset of pregnancy, diminishing by progressive steps, to reach its lowest level in the middle months, rising to normal at term.

THE MEDICAL AGE

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ORIGINAL CONTRIBUTIONS.

GASTROPTOSIS.

BY M. E. CORBETT, M.D., OSHKOSH.

Gastroptosis, or descensus ventriculi, is the most frequent anomaly of the stomach, and is usually but a part of a general splanchnoptosis. Frequently with gastroptosis we have a ptosis of one or more of the other abdominal viscera. While this condition of the stomach was described by Virchow, Leube, Landau, and other authors, it was left to Glenard to first publish in 1885 an exhaustive study of its clinical significance. He emphasized its importance and established it as a distinct affection. Meckel first observed in autopsies the so-called vertical position of the stomach, and also that this occurred more frequently in females. Kussmaul was the first to give a clinical description of the vertical position of the stomach, of which he distinguished two kinds—first, congenital, representing an arrest of fetal development, and secondly, acquired, caused by pressure of lacing. Gastroptosis is frequently encountered, as shown by the observation of Meinert. Of fifty girls examined at a public-school at the age of twelve, almost half presented dislocated stomachs. Among girls examined at the age of fourteen, he found gastroptosis in eighty per cent, and among the women presenting themselves at his private gynecological clinic ninety per cent presented gastroptosis. While this disease is found so frequently in women, he estimates that this dislocation occurs in only five per cent of the male population of Dresden.

Schwert in a study of ninety-five cases of enteroptosis found that eighty-nine occurred in women and but six in men, and gastroptosis existed in sixty-nine of the whole number. J. Dutton Steele, in a study of fifty consecutive cases in his practice, found that of the thirty men examined, five, or sixteen per cent, had

gastroptosis; while of the twenty women examined it was present in fifteen, or seventy-five per cent. Arneill, in a study of eighty cases of enteroptosis, found gastroptosis present in sixty-nine, the dislocation being considerable in twenty-eight, so that the entire organ lay below the umbilicus. In forty-one cases the prolapse was moderate. In three of the eighty cases there was no dislocation of the stomach, and in eight of the cases there were no notes.

Bettman considers all cases in which the lesser curvature can be demonstrated below the free border of the liver to be instances of gastroptosis. In a total of seventy-two cases reported by him, eighty-five were in females and occurred irrespective of child-bearing. He believes that this condition exists in from fifty to ninety-five per cent of all women. Kuttner and Dyer found on examination of one hundred children no gastroptosis; in one hundred men but four cases, and in one hundred women forty-two.

From the above study of the frequency of this disease, its greater percentage of occurrence in women is so pronounced as to lead us to study more closely its etiology.

Pathology.—Gastroptosis is characterized by a falling or slipping of the stomach downward, due to relaxation of the gastrohepatic and hepatopyloric ligaments. There may be a total displacement downward (descensus *in toto*) or a more or less pronounced displacement of the pyloric portion.

The total descent of the organ is caused by a stretching or loosening of the gastrophrenic ligament, or a lowering of the diaphragm, and is comparatively rare, owing to the firmness of the cardiac attachment. Where there is a total descent of the organ, the cardiac end and pyloric are on the same level with the umbilicus, and the lower border half-way to the tubes. With the descent of the pyloric portion the cardiac end occupies approximately its normal position, while the pylorus is depressed downward and toward the median line, the stomach approaching a vertical position. For the sake of convenience, and depending upon the degree of displacement of the pylorus, Steele has classified the different forms into vertical and subvertical.

Gastroptosis is associated with more or less dilatation, of which there are two varieties: (1) pyloric dilatation, and (2) general dilatation. In the first, on account of the position of the pylorus and the natural descent of the food to this portion of the stomach, gastroptosis, in all probability, is the primary condi-

tion; while in general dilatation and gastroptosis, it is probably the dilatation which is primary.

Etiology.—Stockton has divided the causes of gastroptosis into three classes:

1. Conditions that tend to push the stomach downward.

2. Those that lead to the diminution of intra-abdominal pressure and relaxation of the supporting ligaments.

3. Those which lessen the support beneath the stomach and drag it downward.

Of the causes that tend to a downward pressure of the stomach, perhaps the most common is tight lacing and dragging of the skirt-band. The pressure is exerted just over and above the stomach and naturally forces it downward. Another cause is the narrowing of the chest, due to rachitis (funnel or pigeon-breast) or displacement downward of the liver from any cause, resulting in a depression of the diaphragm. Straining at stool due to chronic constipation, so prevalent in women, is also a factor in the production of this condition.

J. Dutton Steele has shown that a general dilatation of the stomach may be the primary cause of gastroptosis.

Bial has studied particularly cases of narrow thorax due to rachitis and other causes, and cases of phthisis and of emphysema, and found that dislocation of the stomach is very frequent but not invariable. His figures show gastroptosis in twelve of eighteen cases of malformation of the thorax, and in eighteen of twenty-six cases of emphysema.

The causes that lead to the diminution of intra-abdominal pressure are various. J. Dutton Steele has compared the abdomen to a vessel filled with water. He says that as the abdominal organs are practically impressible and approximately of the same weight, there is present a condition simulating hydrostatic pressure, and that the stomach, colon, and liver are partially at least upheld by and float, as it were, upon the intestines.

According to Schwerdt the ligaments support not more than one-eighth of each organ, therefore anything which increases the capacity of the abdomen and allows a sinking of the contents of the lower half represents the lowering of the fluid upon which the stomach and the colon float.

The fact that gastroptosis occurs so much more frequently in women than in men points to conditions existing in the former which do not prevail in the latter, and which have a

decided influence in the production of the disease. Therefore we find that repeated pregnancies, followed by pendulous abdomen, are a frequent cause of the disease. Likewise removal of tumors and getting up too soon after child-birth, while the abdominal muscles are in a weakened and relaxed condition, are causes peculiar to women.

As has been pointed out by Hemmeter and others, all wasting diseases which produce a quick consumption of the fat of the body and disturbances in the nutrition of the abdominal integuments are contributing causes in its production. Gastroptosis also appears in individuals who have been punctured repeatedly for ascites, and in whom the abdominal muscles have become paretic on account of continual distention.

Of the causes which lessen the support beneath the stomach and drag it downward may be mentioned the theory of Glenard. The intestines, he says, are supported on six loops by means of ligaments at the posterior wall of the abdomen. These ligaments are not all of equal length, and the points of fixation of several of them are especially weak; this being true of the gastroduodenal and transverse colon ligaments. Should any of these ligaments give way, we would have a falling of that part of the intestines which it supported, and this would exert traction on the next fixation point, and so on until an enteroptosis ensued. Of the contributing causes may be mentioned blows, jarring injuries, falling on feet, and hereditary disposition.

Diagnosis.—The diagnosis of gastroptosis may be made by various methods:

1. Gastrodiaphany. Cazenave in 1845 first applied the method of transillumination to living tissues. Mikulicz in 1867 succeeded in transilluminating the stomach of animals.

In 1889 Max Einhorn succeeded in transilluminating the stomach of human beings by means of a soft-rubber tube at one end of which is fastened an Edison lamp. From here run conducting wires to a storage battery. At some distance from the rubber tube there is a current interrupter. He called this apparatus the gastrodiaphane, and the method of transilluminating the stomach gastrodiaphany. By this method he was enabled, first, to ascertain the exact position and size of the stomach, and secondly, to recognize tumors or thickenings of the front wall of the stomach by lack of translucency.

The examination is made in a perfectly dark room, the patient being either in a standing or recumbent position. The patient

is permitted to drink one or two glasses of water, which amount will not distend the stomach beyond its natural capacity and position. The stomach transmits the electric light through the abdominal walls, where it thus becomes visible as a red zone corresponding to its position. It is possible only to determine the left lateral and inferior limit of the stomach by the diaphany where the organ is in its normal position, for the lower edge of the liver prevents transillumination of the remaining parts.

But in gastroptosis, where the stomach has sunk down as a whole and is adjacent to the anterior abdominal wall, gastrodiaphany will give characteristic pictures and enable one to determine both the upper and lower limits.

When the stomach has sunk down it has lost its surface-contact with the diaphragm, and the transilluminated figure will show no respiratory movements.

2. Gastric inflation. There are three ways of inflating the stomach:

(*a*) By administering a solution of one drachm of sodium bicarbonate followed immediately by thirty grains of tartaric acid in solution. The CO_2 promptly set free inflates the stomach.

(*b*) By introducing the stomach-tube and attaching to its external end the bulb of a Davidson syringe, or an atomizer. The air is then pumped into the stomach, vigorously at first, to contract the pylorus and prevent escape of the air into the bowels. The air thus injected is under control, and may be immediately released if unpleasant symptoms arise.

(*c*) Lengerhan states that he distends the stomach by attaching a small rubber bag to the end of the stomach-tube, and after introducing this distends the bag by pumping in air. In this way he believes he obtains a better idea of size and position of the stomach than by any other means.

When the stomach is fully distended, auscultation and percussion should be done, and the two together should be used as aids.

3. By means of the *x*-ray this method is used, first by washing out the stomach, and then introducing an emulsion of bismuth and examining with the fluoroscope.

4. Belt-sign of Glenard. An objective sign of diagnostic value employed by certain observers is the belt-sign of Glenard. This is the relief the patient experiences when the lower half of the abdomen is supported by a belt, or by the hands of the patient or surgeon, when in the upright position.

5. Karl Stern calls attention to the possibility of recognition of position of the stomach by means of the slight shadow seen upon the abdominal walls during the respiratory movements when the stomach is distended.

The patient should be placed upon his back, with the light entering nearly on a level with the body from the direction of the head. In instances of marked gastroptosis Stern was able to make out the smaller curvature of the stomach as well as the other contours. It is necessary to have the stomach partly distended by fluid, as well as some gas. The method is of no use where the abdominal wall is thick and tense. Emphasis must be placed upon the fact that in many cases of gastroptosis there are no symptoms; most common symptoms are those of motor insufficiency and dilatation.

It is questionable whether neurasthenia and chlorosis are causes or results.

Non-surgical Treatment.—The treatment of gastroptosis consists first in prophylaxis. The physician should point out the injurious effects of tight lacing and the constriction of the waist by skirt-bands, etc. Dresses and skirts should be supported, if possible, from the shoulders. The relaxation of the abdominal muscles must be prevented by the application of bandages, following child-birth and after laparotomies. These should be worn for several months; massage and electricity and cold-water baths contribute to a toning up of the muscles of the abdomen.

Hemmeter recommends two very effective methods of strengthening the abdominal muscles by abdominal gymnastic exercise, of which the following are brief descriptions:

1. The patient places himself on a couch or blanket spread on the floor, clothed simply in his underwear; the hands are placed at the sides. The exercise begins by slowly raising the limbs from the couch to a vertical position in the air, keeping them there for thirty seconds, then very slowly letting them return to the horizontal position of rest. The secret of this maneuver is its slow execution; with one hand on his abdominal muscles the patient may feel the tightening and rigidity that occur in the act of raising the limbs. This exercise should be repeated ten times.

2. The second exercise should be carried out in the following manner: The patient places himself flat on a blanket on the floor, with his feet inserted under a bureau, or under a piece of

heavy furniture of any kind; both hands are placed at the sides. The patient must now slowly bring the trunk of his body into an erect position, and when this has been reached the trunk is just as slowly replaced in a prone position on the floor.

Both of these exercises are quite similar: in No. 1 it is the trunk which is fixed, and the lower limbs are slowly moved up and down; and in No. 2 the lower limbs are fixed, and the trunk is moved up and down. These exercises should be carried out systematically and methodically ten times every morning and evening.

Rapid emaciation must be avoided, especially in fat people wishing to become thin. The mechanical treatment consists in applying a properly fitting abdominal bandage. Bandages should be supported from the crest of the ilium, symphysis pubis, and spinal column.

Rose recommends strapping of the abdomen by plaster strips, which are left in place for several weeks. Any of the health corsets may be recommended that do not compress the waist-band, and that have an arrangement so that the clothing may be supported from the shoulders. The straight-front corset may be especially recommended, as it gives considerable support to the abdomen from below.

Lavage is recommended for restoring tonicity to the muscles of the stomach where there are symptoms of atony and motor insufficiency.

The diet should be as nourishing as possible and adapted to the condition of the stomach. A large amount of food should not be taken at one time, and rest in a recumbent position after eating should be insisted upon.

Constipation should be overcome by such remedies as the physician finds suitable for each individual case.

A NEW THERAPEUTIC AGENT OF VALUE IN THE TREATMENT OF EPILEPSY, WITH THE REPORT OF A CASE.

BY HUGO ERICHSEN, M.D., L.R.C.P. & S.

In the spring of the past year H. G. L——, aged forty-four, applied to me for treatment. Seeing him shortly after an attack, I was able to diagnose his disease as epilepsy, a diagnosis that was corroborated by Dr. George G. Roberson, a very able general practitioner of Utica, Mich.

The etiology in this case is obscure. The family history is

good, and, so far as known, neither parent of the patient was afflicted with any disease of the brain or nervous system or with syphilis.

During his childhood the patient was considered delicate, but grew fast in size and strength without being conspicuously different from other boys of his age. When full-grown his height was 5 feet 11¼ inches, and he weighed 145 pounds. Though rather spare in body and limbs and not very well proportioned, he was able at all times to do a man's work, physical or mental, but felt the need of regular nourishment and a plenitude of sleep.

In 1885, at the age of twenty-five, he began the practice of dentistry, marrying four years later.

No other event of importance occurred in his life until early in 1892, when he suddenly came down with a disease pronounced rheumatism by his attending physician. The patient states that he did not consider the attack serious, although several months elapsed before he was enabled to resume his practice. At the time he noticed, however, that the growth of his finger-nails was arrested, as indicated by sharply defined furrows, where the nails had grown thin. This would show, of course, a lack of nutrition, partly due to some subtle change of metabolism, accounting for much that followed.

At the same time he experienced what he characterized as a "fainting spell" coming on after eating a rather indigestible supper. It was accompanied by a stertorous breathing, but not preceded by an outcry or any convulsive movement.

During the following summer he repeatedly had what he called "a very slight though well defined mental sensation," without dizziness, except on one occasion.

In the spring of 1894 the patient was suddenly taken ill with what he termed "a nervous weakness," while he was at work, and obliged to quit for the day. The "weakness" passed off before the next morning, but recurred at intervals, and finally became permanent and compelled him to give up his practice. It was accompanied by a rapid pulse, and did not manifest itself except when patient became excited or exerted himself. After spending three or four months in the country, however, the patient returned decidedly improved.

But the same trouble occurred in the winter of 1895, and was followed by a bilious attack, producing extreme weakness and emaciation. After a while the patient recovered from the biliousness, but the "nervous weakness" remained.

From 1895 until 1900 the patient often made very rapid gains and became apparently well, so long as no demands were made on his strength, but a small amount of work, worry, or excitement was enough to produce a relapse. With reference to this period he says: "Medical examinations revealed nothing, and treatment seemed to be useless."

According to his description he experienced a few attacks of petit mal at this time, but they were so light in character that they scarcely attracted notice.

Later, when the convulsions became more severe, they were almost always preceded by an outcry. Sometimes the tongue was bitten, the shins scratched, and the head bumped, and in every instance, the patient states, "the muscles were left strained and sore." Convulsions were invariably followed by a heavy sleep of several hours. The patient remained in a dazed state for several days after the attack, and recovered his normal mental condition but slowly.

Altogether, so far as I can ascertain, the patient had nineteen well defined attacks of epilepsy since the summer of 1900. Shortly after the occurrence of the last, on April 17, 1903, I took charge of his case. Up to that time he had been taking the bromides at irregular intervals, owing to the fact that his stomach was easily deranged.

Right here it might be well for me to state that the greatest difficulty that confronted me in the management of this case was the condition of the patient's gastrointestinal tract, and from what I have observed in this instance I have come to the conclusion that a regulation of a patient's bowels and digestion is of supreme importance, if we would effect a cure in any case of epilepsy.

The patient was particularly liable to occasional attacks of biliousness, which yielded promptly, however, to the administration of ⅛ grain of podophyllum.

One of the very first things I did, under the circumstances, was to arrange a dietary. It was compiled from American and English sources, and is not reproduced here because it is not essentially different from similar directions published heretofore. In the hands of an intelligent patient, who is imbued with the necessity of care in the selection of food, such a list is of the greatest importance.

The choice of a suitable remedy proved more difficult. The bromides had to be rejected, because they deranged the stomach in

a short time. Even bromide of sodium proved objectionable for this reason. My attention having been called to bromipin by Dr. Wm. P. Spratling, of the Craig Colony, I determined to give that agent a trial. I considered it especially indicated in this case, because the patient was asthenic. But even when yolks of eggs and brandy were added to it the patient experienced distress after taking it, in consequence of the sesame oil in which the bromine is incorporated. In suitable cases I have no doubt it may prove of benefit, as it combines a nutritive with the specific action of the bromine, but in this particular instance it was clearly contraindicated.

At about this time my attention was directed to "brometone." It proved to be the very thing I was looking for, as the patient had no difficulty in retaining it on his stomach and it did not give rise to any untoward after-effects. I found it necessary, however, to cut down the dose that was recommended. After taking what was evidently an overdose the patient experienced drowsiness during the day, but when the dose was reduced to 5 grains (in capsules) three or four times a day he experienced no further trouble in this respect.

As the drug is not well known, a few words with reference to its composition will not be out of place. Chemically it is designated as tri-brom-tertiary-butyl-alcohol. In a preliminary report on its pharmacological and chemical properties, in the *American Journal of Physiology,* vol. 8, No. 5, 1903, Drs. E. M. Houghton and T. B. Aldrich refer to it as follows:

"Willgerodt, in a paper dealing with tri-chlor-tertiary-butyl-alcohol, or aceton chloroform, mentioned having obtained a similar product containing bromine in place of chlorine, which he called tri-brom-tertiary-butyl-alcohol, but he did not make a careful examination of its chemical and physical properties, and seems not to have considered at all its pharmacological properties. The bromine compound is produced by the action of caustic alkalies upon mixtures of bromoform and acetone. The excess of acetone and bromoform having been distilled off, the new bromine compound is removed from the residue by distillation with steam, the product being finally purified by recrystallization from alcohol or other suitable solvent. The purified substance is a white crystalline body having a camphoraceous odor and taste. The melting point is about 167° C. It is soluble in most of the organic solvents, as alcohol, ether, benzene, etc., slightly soluble in cold and more soluble in hot water.

"This compound, since it is a derivative of the fatty acid series, when administered in various ways to animals possesses decided anesthetic properties; recovery from small quantities takes place without any apparent untoward results. The drug appears to have very little influence upon the heart or circulation, as shown by myocardiographic and blood-pressure tracings taken from curarized animals."

Brometone contains about 77 per cent of bromine and possesses the sedative and characteristic action of that agent. It is preferable to the bromides, because it does not give rise to nausea, vomiting, or any other alimentary disturbance. Moreover, it does not seem to produce the undesirable systemic depression often resulting from the commoner bromides. And although my patient has been taking brometone day after day for over a year, he has not been afflicted with skin rashes or any other indications of bromism.

On the contrary, he has not had an attack for sixteen months, has gained in weight, improved in appearance, and takes a more cheerful view of the future.

From my experience with it I am inclined to believe that brometone will prove of service in the treatment of other nervous conditions, particularly insomnia, headache, and delirium tremens. It may also prove of benefit in some cases of asthma and coughs of reflex nervous origin.

A PURELY chemical system of sewage treatment, invented by Mr. Bayer, has been adopted by the city of Brunn, Moravia. The system is based upon the employment of a reagent composed of organic carbon, lime, and powdered zinc. These three substances are mixed in the proportion of one kilogramme of carbon, twenty to thirty grammes of lime, and ten of zinc dust, per cubic meter of sewage. The purifying carbon is obtained by dry distillation in gas retorts of offal from abattoirs. After being well mixed with the reagent the sewage flows into a settling basin. The mud deposit is pumped into press filters, which compress it into cakes, which are distilled dry, so that part of the reagent can be recovered. After leaving the settling basin the water, yet turbid, runs to a filter composed of superposed layers of bricks, coke, and carbon. The filter effluent is conveyed to the river.

THE MEDICAL AGE.

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EDITORIAL ARTICLES.

PRESENT NOTIONS OF HEREDITY.

The present age seems destined to witness the decay of certain well established beliefs. The atomic theory, for instance, once seemed to be founded on such eternal and immutable principles that it would be impregnable to the assaults of skepticism. The newer conceptions of matter which are to-day forcing themselves on the convictions of scientists carry with them the inference that the atom is after all not the ultimate unit of matter, but is only the focal material point around which particles of matter the electrons are revolving. It is needless to say that such a conception of matter is destined to modify very materially all previously conceived theories of the universe. These new conceptions will gradually permeate related sciences, and that of medicine must be prepared to adjust itself to new conditions of thought.

Especially noteworthy among modern influences are the new notions of heredity which are gradually assuming coherence. It was only a few years ago that the universal acceptance of the Darwinian doctrine of the transmission and inheritance of acquired variations was accepted as a finality. In such diseases as syphilis and tuberculosis the hereditary factor was deemed absolute. The desexualizing of criminals and degenerates was urged as a sure way to rid the world of undesirable members of the future race. Where has the Darwinian doctrine gone? The prevalent idea is now that inheritance passes for little and environment comprises almost all. The children's teeth are not set on edge by their father having eaten sour grapes, but because sour grapes happened to grow in the family back yard, and as for favorable acquirements being transmitted it is the evil that men do that lives after them, apparently, while the good is oft

interred with their bones. If the doctrine of Weisman continues to win its way in the convictions of biologists, a modification will be demanded of all our existing notions of the transmissibility of disease. Nevertheless, when it is thoroughly understood that the most recent word of science has for its effect the exaltation of the influences of environment over that of inheritance, will not much that is practical result from the admission? When it is conceded that the human organism is so responsive to the impulses received from its surroundings that all the varieties hitherto so bewildering in their manifold manifestations must be attributed to the actions of external forces rather than to the operation of passive principles, will not better effort be forthcoming to make environment what it should be? It would not be an unmixed evil if we could dismiss from our minds forever that nightmare of heredity which visits the sins of the fathers upon the children. A milder conviction would at least foster our confidence in the improvability of human nature through well directed effort.

EDITORIAL NOTES.

The Dangerous House-fly.

The last few years has settled beyond a doubt the rôle played by the common house-fly as a carrier of disease. Experiments have shown that flies carry the contagion of typhoid and yellow fever, and a more recent observer who conducted an extended series of investigation found that common flies after being allowed to feed upon exposed tuberculous sputum deposit the bacillus of tuberculosis in their specks. A writer in the July number of *Sanitation* advises boards of health to take the following measures: (1) To use the most stringent means to secure the perfect disinfection of all the discharges from typhoid-fever patients. (2) To urge upon people the necessity of screening their dwellings, protecting all foods, and explaining the dangers incurred by not doing so; they should be taught to regard flies with suspicion. (3) As flies breed most abundantly in manure piles and the droppings from horses, regulations should be adopted and enforced compelling the proprietors of livery stables and private owners of horses to cover or screen their stable refuse in such a manner that flies cannot have access to it. Germicides, chloride of lime, or similar preparations that will destroy the eggs of the

house-fly, should be freely used and frequently in manure pits and around stables. (4) Unusual care should be taken to clean thoroughly and frequently the public streets, removing all droppings from horses, and treating street cleanings at the dumping grounds in the same manner as at public or private stables.

The advice above is excellent and should be followed.

Cigarette Legislation.

The folly of some legislative acts is too common for comment, but a bill which was recently introduced into the Canadian Dominion Parliament is the silliest we have had brought to our notice for a long time. If this bill becomes a law it will then be a criminal offense to have in one's possession a single cigarette. This bill further says: "No person, by himself, or by his clerk, servant, employee or agent, shall, for himself or any one else, directly or indirectly, or upon any pretense, or by any device, manufacture, sell, expose, keep, or offer for sale, or give away any cigarette, cigarette papers, or cigarette wrappers, or any substitute for such wrappers, or shall keep or own, or be in any way concerned, engaged or employed in owning or keeping any cigarettes or cigarette papers or wrappers, or shall organize or permit any of these things to be done. No cigarettes, cigarette papers or wrappers shall be imported into Canada or entered for consumption therein, and all cigarettes, cigarette papers or wrappers, or papers intended as such, shall be subject to seizure by any officer of Customs or Inland Revenue."

There are greater evils than cigarette smoking which ought to claim the attention of those who want to make us good by acts of legislation.

The Patent Medicine Testimonial.

The marvelous sale attained by certain patent medicines has often caused many to wonder how it was achieved. The following from a lay paper shows how some of the extraordinary testimonials are obtained: "Remarkable testimony has been obtained by the post-office department as to the ways in which testimonials are obtained by some of the big concerns engaged in this business. One large firm admitted that it had agents out seeking persons who had formerly occupied prominent positions in the community, but had suffered financial reverses and were harassed by debts they were unable to settle. The agents would obtain pos-

session of the unpaid accounts, and would then apply pressure to the unfortunate victims, demanding immediate payment in full. Finally, after long persecution, the desperate victim would be invited or commanded to call at the office of an attorney, where he would be given to understand that if he would sign and swear to a testimonial a receipt in full for the claims against him would be given. This seems incredible, but the facts are now on file in the records of the post-office."

The Empress of China Progressive.

The Dowager Empress of China, who has always been held up to Western eyes as the embodiment of all that is cruel, has shown herself to be very progressive. She recently issued a decree against deforming the feet of women to make them small. It is also announced that, rating the work of medical missionaries very high, she recently gave a sum of money for the establishment of an institution for teaching medicine, the management to be given entirely to the missionaries. The old lady is evidently trying to make amends for some of her misdeeds.

Dress Reform Again.

There was held during the summer at Dresden a congress of physicians, clergymen, and others to advocate reforms in the dress of women. One of the speakers aptly said that the first requisite to success in effecting such reforms is the consent of the women who lead the fashions. Such attempts are by no means new, but up to the present time all have been failures. While the women admit their clothes to be uncomfortable and unhygienic, they end all arguments in regard to reform by saying that they might as well be dead as out of the fashion.

The Disinfection of Restaurant Dishes.

That infection from the promiscuous use of restaurant glasses and cups, which are as a rule carelessly washed, is not oftener observed is probably due to good luck. The suggestion offered by the medical chamber of Breslau is an excellent one and ought to be put into practice generally. They recommend that all dishes be numbered and be sterilized by heating for one minute to 50°C. (122°F.) in a two-per-cent solution of soda.

ITEMS AND NOTES.

CLEVELAND is to have an antituberculosis dispensary.

ST. PETERSBURG is threatened with an epidemic of Asiatic cholera.

THE seventh congress of internal medicine will open at Paris October 24.

A NEW quarterly journal is announced to appear October 1, 1904, entitled *Ophthalmology*.

ZION—Dowie's Zion—has sixteen cases of smallpox, and near-by towns are alarmed thereat.

THE city of New York will invest $10,000 in an inquiry as to the contagiousness of pneumonia.

THE city of Buffalo has commenced work on the new municipal hospital for contagious diseases.

ANTITYPHOID inoculation has, according to a recent report, been introduced into the German army.

THE number of medical students enrolled in the universities of Germany for the current year is 6049.

THE French Urological Association will hold its eighth annual meeting in Paris on October 20, 21 and 22.

BALTIMORE MEDICAL COLLEGE has new laboratories of operative surgery and clinical pathology and a new museum.

THE American Association of Life Insurance Examining Surgeons will hold its next annual meeting at Portland, Ore., July 10, 1905.

THE American Confederation of Reciprocating Examining and Licensing Medical Boards will meet at the Hamilton Hotel, St. Louis, on October 25.

AT the conference arranged by the Chicago Woman's Club on "Women in Industrialism," Dr. Lucy Waite, of Chicago, reported 4376 women listed in the medical societies of this country.

THE fourth Austrian Balneological Congress will meet at Abbazia, October 12 to 16, 1904, under the presidency of Professor Winternitz, of Vienna.

THE fifth annual meeting of the American Roentgen Ray Society was held September 9, 10, 12, and 13, 1904, at the Louisiana Building, St. Louis, Mo.

DR. GEORGE F. SHRADY, after nearly forty years of continuous service, has resigned the editorship of the *Medical Record,* Dr. Thos. L. Stedman being appointed in his place.

THE Fourth Pan-American Medical Congress, which was to have convened the latter part of December of this year at Panama, has been postponed until the first week in January.

THE Thomas Wilson Sanitarium is operating five milk dispensaries in Baltimore, where for 10 cents a day three pints of properly modified milk can be obtained for feeding infants.

A DESPATCH from Austin says that the Texas State Health Department has been informed of the breaking out of yellow fever at the government military post at Brownsville, Texas.

FRANCE has organized institutes in her colonies modeled after the Paris Pasteur Institute. Madagascar, Algiers, Tunis, New Caledonia, Senegal, each has one or more, and French Indo-China has three.

THE ninth annual meeting of the American Academy of Ophthalmology and Oto-Laryngology was held in Denver August 24 to 26 under the presidency of Dr. Edward Jackson, of Denver.

DR. HELEN BROOKS, of Gloucester, Mass., has been elected physical director of the women's gymnasium at the University of Michigan, to fill the vacancy caused by the resignation of Dr. Alice Snyder.

THE list of notifiable diseases has recently been revised and enlarged by the Board of Health of Philadelphia. The list now includes cholera, yellow fever, malarial fever, typhoid fever, typhus fever, scarlet fever, smallpox, chicken-pox, diphtheria, cerebrospinal meningitis, measles, rubella, whooping-cough, tuberculosis, pneumonia, erysipelas, puerperal fever, plague, trachoma, leprosy, glanders, tetanus, rabies, and anthrax.

San Francisco is to have a great library of medicine and surgery, one that will be surpassed in this country only by the collection of medical and surgical works of the office of the Surgeon-General of the United States in Washington.

Dr. William Osler has accepted the regius professorship of medicine at Oxford University in succession to Sir John Burton Sanderson. He will assume the duties of the new position next spring, after completing the school year of 1904-5 at Johns Hopkins.

A new line of work looking to the determination of sex is going forward at Florence, Italy, by Ducceschi and Tallarico, whose plan is to produce a cytotoxic serum for the special sexual cells, and to inject male or female cytotoxins during pregnancy, thus controlling the sexual development of the embryo.

There is, according to an exchange, in Paris a new school of psychology to investigate such questions as mind reading, mental suggestion at a distance, clairvoyance, presentiments, automatic writing, double personality, etc. This school unlike most associations studying these subjects has for its members medical men almost entirely, whose professional duties bring them in close contact with these often curious phenonema. The members are followers of Charcot.

The French Surgical Congress will hold its seventeenth annual session in Paris in the week beginning October 17, under the presidency of Dr. S. Pozzi. The following are the subjects for discussion: (1) "The Surgical Treatment of Cirrhosis of the Liver," to be opened by M. Monprofit, of Angers; (2) "The Semeiological Value of Examination of the Blood in Surgery," to be opened by M. Tuffier; (3) "Traumatic Separation of the Epiphyses," to be opened by M. Kirmisson.

The statements which have recently appeared in various quarters that there is some chance of an agreement being come to between the Pope and the King of Italy recalls the fact that a similar arrangement was contemplated in 1860 by Cavour. The negotiations were conducted by Dr. Diomede Pantaleone, a physician of Rome. There is said to be still extant a minute of the proposals revised and corrected by Cavour himself. Owing to his sudden death the negotiations came to nothing. It may be added that Dr. Pantaleone was a strong advocate of professional representation in legislative assemblies.

Baron Antonio Evaristo D'Ornellas, some time minister plenipotentiary of Portugal in France, who died recently, was a doctor of medicine of Paris and Oporto. He took his degree at Paris in 1854, the subject of his inaugural thesis being the morbid anatomy and treatment of the fibrous polypi of the base of the skull known as nasopharyngeal. He was also the author of a monograph on the physiological action of emetine, which was published at Paris in 1874, and of a paper on vomiting, which appeared in the *Bulletin Thérapeutique* (1873).

The Royal Colleges of Physicians and Surgeons of Ireland have added Irish to the list of optional languages, one of which must be taken by each candidate at the preliminary examination held by the colleges. The following resolution, adopted at a recent meeting of the Kilkenny branch of the Gaelic League, makes the action of the college more obvious: *"Resolved,* That we will call on our elected representatives at the board of guardians to direct their employees to at once learn to speak the language of the Gael, and that Drs. Hackett and Morris write their prescriptions also in the Irish language under the pain of dismissal." Naturally the colleges did not want their future licentiates to be subject to instant dismissal for such gross ignorance.

M. Jean David, of Montpellier, the oldest member of the medical profession in France, died last month in the 104th year of his age. He was born at Murviel-les-Montpellier on February 3, 1801, qualified as an officier de sante in 1824, and up to a very advanced age he practiced his profession at Grubels near Montpellier. He retired in 1892. Up to that time he had led the hard life of a country doctor, making his rounds winter and summer on horseback. His sphere of practice covered a very extensive and mountainous region. He was for many years mayor of his commune. He was a man of vigorous constitution and very temperate habits. During the last few years of his life he suffered from blindness caused by cataract, but his mind remained perfectly clear to the end.

The first International Congress on the Sanitation of the Dwelling-house, organized under the auspices of the French Society of Hygiene, will be held at Paris, October 15 to 20, 1904, under the presidency of M. Janssen, member of the Institute. Among the honorary presidents, in addition to the leading hygienists of France, are the Prime Minister and the Ministers of Public Instruction, Agriculture, Commerce, and Marine. The object

of the congress is to study the sanitary conditions of the building and installation of dwelling-houses, to urge the reforms in these conditions that appear to be required, and to discuss the practical means of inducing municipalities, owners, architects, engineers, builders, and tenants to apply the principles of hygiene to the construction of dwelling-houses.

ACCORDING to an exchange the price of goldenseal root has been advanced nearly 100 per cent thus far this year. The average price during January was 75 cents a pound, and it is now held at $1.35. The advance has been due to a scarcity of supplies, occasioned by the fact that the gathering of the root has been lighter and the consumption heavier. This is one of many indigenous drugs the shortage of which has occasioned the manufacturers of chemicals and wholesale drug dealers much inconvenience during the last year. Western senega root is another of these drugs, which has been steadily advancing because of the scarcity of the supplies, and there are numerous others of lesser importance which cannot be obtained with any degree of certainty, and which are rapidly enhancing in value by reason of their scarcity.

A PRIVATE letter from Tokio received in London speaks, according to the *New York Post,* with great admiration of the service done by the Japanese women as trained nurses. When the war broke out all the male nurses in the hospitals were drafted into the field army, and their places were taken by women, all of whom had had three years' training, largely under the supervision of the Red Cross Society. The writer says that he was present recently at a series of serious operations in the University Hospital at Tokio where the instruments and dressings were entirely in the hands of women, and he declares that nothing could have been more skilfully done, or with greater attention to all the precautions of modern surgery. He then goes on to say that the Japanese authorities have been a good deal embarrassed by the conduct of certain well meaning Englishwomen who have persistently volunteered their services as trained nurses under the impression that their help would be invaluable. The Japanese, knowing their kindly intentions, are unwilling to hurt their feelings, and are far too courteous to tell them that they are in no need of either instruction or assistance, having an abundant supply of trained native attendants who are in all respects as competent as any Europeans.

The *New York Evening Post* says: "Dr. Cronin, of the health department, calls the attention of the public to the terrible mortality which has been induced among infants by the unrelenting July rains. Back of this is the old story of the incapability of people of the lower classes to give proper care to the babies they bring into the world. Dr. Cronin has found discouragement a plenty in the communities which make beer, strong tea, and raw fruit staples for ten-days-old children. He says that fully 40 per cent of the deaths among infants under two years of age are among those which have been fed on condensed milk and patented baby foods. And in spite of a cool summer and the best efforts of the health department, the number of deaths among little children has been nearly twice as great for the last six weeks as it was last year. The milk supply of the city, if accounts may be trusted, is at its maximum of excellence. Public-spirited citizens have put sterilized milk within the reach of mothers who cannot obtain it otherwise."

An exchange says none of the more striking experiments performed with the new *n*-rays is more wonderful than the recent investigation by Becquerel, in which he has ascertained that certain inorganic bodies, such as calcium sulphide, which emit these rays after having been exposed to sunlight, when subjected to the influence of an anesthetic, such as chloroform, ether, or nitrous oxide, lose this power. A few months ago Meyer found that this would happen with plants, but that an anesthetic should affect an inorganic substance is an entirely different matter, and brings up a new and difficult question for scientists to answer. It may even mean the breaking down of the line between organic and inorganic substances, and that the *n*-rays are the result of certain vital processes which anesthetics may check. In other experiments of a similar nature it has been found that the variations of the *n*-rays produced by the nervous centers, as indicated by the glowing of the phosphorescent screen on which they were received, enable an observer to follow the action of an anesthetic and to determine when danger to life begins, since it is possible to distinguish readily the point of death. The development of this experiment will doubtless afford an interesting method of studying anesthesia, and it may be possible to use it to indicate the time necessary for employing restorative measures when a patient is under the influence of an anesthetic. Such a use in the light of present experiments is the barest possibility, but it indicates a field that may be opened up by this new discovery.

NEW PUBLICATIONS.

A HANDBOOK OF PATHOLOGICAL ANATOMY.

It is almost unnecessary to call attention to the excellent features of this well known manual of pathological anatomy. The present edition is the seventh, which speaks for itself as to the popularity the manual has enjoyed. It has been largely revised. The section on immunity has been entirely rewritten, and Ehrlich's side-chain hypothesis set forth with detail. Cytolysis also comes in for increased notice. A number of new illustrations have been added, and the manual will be found *par excellence* the one students and practitioners will desire to possess.

A Handbook of Pathological Anatomy and Histology. By Francis Delafield, M.D., and T. Mitchell Prudden, M.D. Seventh Edition. New York: William Wood & Co.

CLINICAL UROLOGY.

This is not merely a text-book for the laboratory, nor is it a disquisition on the disorders promoting urinary abnormalities. Its purpose is designated as that of describing the border-land which lies between the laboratory and the clinic. It appears to be an exceedingly well digested arrangement of the facts having significance in urinary examinations. The book is written in an interesting manner, and a careful attempt has been made to exclude useless and bewildering detail, or record methods of investigation which are still lacking adoption into the permanent armamentarium of the physician.

Clinical Urology. By Alfred C. Croftan, Chicago. Illustrated. New York: William Wood & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Paraffin as a Cosmetic Remedy.

M. D. Ritchie (*Laryngoscope*, August, 1904) from his observations of one hundred cases draws the following conclusions:

1. Paraffin is well adapted for use in prosthesis.

2. In comparison with softer forms, paraffin with melting point of 110° F. seems to be the ideal substance for subcutaneous injection.

3. In the hands of the experienced operator, paraffin at a melting point of 110° F. is inert. In fact it seems justifiable to simulate the injected material, histologically, to so much fatty tissue, being frequently permeated and enveloped by minute trabeculæ.

4. Danger is practically *nil*, those unfortunate cases of necrosis, misplacement, etc., being eliminated by radical surgical and artistic scrutiny.

5. When cold, sterile, semisolid paraffin, free from water of evaporation and air, is injected into surgically clean tissue, the production of embolus is impossible.

6. One-twentieth body weight can be injected into a guinea-pig. There is no known danger to life in the correction of any deformity however marked.

7. Since many other foreign materials are introduced into the surgery about the head, and since danger of paraffin is practically negative, undue timidity seems unwarranted. The accidents in work with melted vaselin and other liquid materials should not be considered in the statistics of to-day.

8. The promiscuous puncturing of facial charlatans should have no bearing whatever upon the scientific employment of paraffin.

9. Experiment shows that no absorption whatever of paraffin takes place in the human organism.

10. Paraffin is equally well adapted for use in children. Four injections, all under ten years of age, show gratifying and permanent results. As the child matures the presence of the injected material seems to act as stimulus toward increased proliferation of adjacent tissue, so that the growth will be along the line of correction rather than toward deformity.

Surgical Hints.

The August issue of the *International Journal of Surgery* contains the following hints:

A very bad intestinal colic may simulate an attack of peritonitis. In the first you can move the abdominal wall over the intestinal mass, whereas in the second the wall is rigid.

Beware of small sponging pads in big operations. The larger the sponge the more quickly you can remove blood and discharges, and the less chance there is of leaving one behind in a cavity.

Remember that after intubation the patients are usually able to swallow semisolid food, such as soft-boiled eggs and mush, more easily than fluids, and that they can always be fed most easily with the head lower than the body.

It is during the period of reaction from shock that secondary hemorrhage is to be feared. In order to prevent it tie all vessels that have been severed even if they are not bleeding; use reasonable pressure through your dressing and inspect often.

In all excisions of joints except that of the knee we desire to obtain a pseudarthrosis. The best false joint will be the one in which the surrounding structures, and especially the muscles and tendons, have been least interfered with, and this consideration should always guide us during the operation.

In bad compound fractures the question of amputation depends on the danger of gangrene, the existence of uncontrollable suppuration, or extensive loss of bone. A limb may be cold and pulseless, but unless it presents other signs of death it should be antiseptically treated and kept warm in order to see whether the circulation may not return.

Proctoscopy.

S. B. Fedoroff (*New York Medical Journal*, Aug. 6, 1904) pleads for a wider application of the proctoscope in diagnosis, and claims to have developed the technics of proctoscopy after the appearance of the anatomical researches of Otis and Kelly. The proctoscope hitherto employed consisted of metallic tubes with an obturator. The author found, both in clinical work and by experiments upon cadavers, that it was impossible to see beyond the sigmoid flexure by means of the straight proctoscopes. He calls attention to the fact that the depth to which a proctoscope is introduced into the duct does not necessarily indi-

cate how far the intestines may be inspected; for the instrument enters to the extent which is permitted by the length and elasticity of the mesentery of the sigmoid, the lower bend of which is drawn over the proctoscope like the finger of a glove. The end of a proctoscope may be felt through the abdominal wall almost under the ribs, and yet it may not have left the bend of the sigmoid. Fedoroff in inspecting the sigmoid uses metallic proctoscopes without handles, but with a scale in centimeters on the outside of the instrument. The source of light is Casper's lamp, which is not connected with the proctoscope except in cases in which an operation is to be performed, followed by an irrigation when a connecting cylinder is introduced between the lamp and the proctoscope. The instrument is introduced in the knee-elbow position to a depth of about ten centimeters, carefully avoiding contact with the promontory of the sacrum. In this manner the beginning of the sigmoid will be reached. The lamp is next introduced, and the instrument pushed further under the guidance of the eye, avoiding obstructing folds of mucous membrane. The entire rectum is inspected by gradually withdrawing the instrument, and from time to time wiping away mucus, etc., from the rectal surface. The use of this instrument is painless and easy.

Malignant Growths of the Nose and Nasal Pharynx.

F. C. Cott (*Laryngoscope,* August, 1904), in discussing the treatment of malignant growths of the nose and nasal pharynx, says that removal by intranasal method as a palliative measure may be advised where some indication prevents operation by a more radical method. Where such method is resorted to the galvanocautery wire loop is probably the safest instrument; although the cold wire snare, if carefully and slowly used, may be recommended. The success attending the major operations, such as excision of the jaw, is far from encouraging, yet operation may be resorted to as a forlorn hope, or to relieve the urgency of some of the symptoms. There always remains a faint possibility of success, although the prognosis, even with the most radical operations, is extremely doubtful. These tumors usually extend far deeper and higher in the nasal cavities than is supposed before operation, and any operation recommended should be the one giving access to the greatest extent of nasal tissue.

Where the growth is bilateral, Ollie's operation, which consists in sawing through the nasal bone and turning the nose for-

ward upon the face, gives one a very clear view of the ethmoid region and upper portion of the nose.

No operation should be done without a careful consideration as to whether the patient can stand the severe hemorrhage which is likely to result.

Excision of the Thyroid in Graves's Disease.

M. Figueria (*Brooklyn Medical Journal*, August, 1904) draws the following conclusions:

That in neurotic subjects especially, emotional and other nervous influences may cause changes in the nervous centers capable of influencing distant organs and initiating in them morbid processes.

That in such way the centers in the medulla are affected in Graves's disease, and as a result of this affection of the medulla the characteristic symptoms of the disease are developed.

That the changes so initiated in the thyroid gland cause a hypertrophy of its glandular tissue and an increase and alteration of its secretions.

That this increase and vitiated secretion constantly pouring into the blood has a tendency to perpetuate and aggravate the other symptoms of the disease, such as tachycardia, exophthalmus, as shown by clinical experience with thyroid extract and by the improvement of these symptoms after resection.

And that finally the operation of resection of the thyroid gland is justified not as a means of curing the disease but of removing a cause that, as demonstrated above, keeps up the symptoms of the disease and prevents nature and science from relieving conditions of the nervous system forming the origin and cause of the disease.

The Treatment of Postoperative Vomiting by Gastric Lavage.

Chas. S. White (*American Medicine*, Aug. 27, 1904) says that it has been clearly shown that the etiology of postoperative vomiting is due in the vast majority of cases directly to the anesthetic absorbed and discharged into the stomach, and that gastric lavage will remove the irritating anesthetic and thereby prevent nausea and vomiting. The necessity for such prevention is at once apparent when we recognize that subsequent ventral hernia is doubtless due in many instances to retching and vomiting after

operation. The multiplicity of drugs which have been employed to prevent such vomiting is sufficient proof that none of them succeeded in accomplishing the desired results. The only method which has given uniformly good results in White's hands is gastric lavage, immediately after the anesthetic is stopped and before the patient leaves the table. This is easily and quickly accomplished, and is without danger to the patient. In no case has he failed in his attempt to introduce the tube in the stomach, and in no instance has any complication arisen. In a series of 20 consecutive cases, though the method has been employed in many more in which ether was used, he found 60 per cent did not vomit, while in 100 consecutive cases of ether anesthesia without lavage only 30 per cent did not vomit. It is contraindicated in operations on the stomach and in very young children.

Hemorrhage.

E. H. Jones (*International Journal of Surgery*, August, 1904) says in all severe hemorrhages put the patient to bed, enjoin perfect rest, elevate the parts, replenish the blood in every instance with saline solution into the tissues, bowels, or by transfusion; sustain the heart's action, supply all artificial heat necessary; remain with the patient and do not rest on your oars. As to the use of the suprarenal gland as a hemostatic, he cannot understand why the profession does not more readily resort to so potent a remedy whose efficacy has been so thoroughly demonstrated. The products of this gland are more effective than the salts of iron, more cleanly, and do not destroy healthy tissue. It has proven ideal in nasal surgery, in the uterine cavity for postpartum and other hemorrhage, in rectal hemorrhage, in cancer and ulcer of the stomach, in epithelioma of the tongue and throat—in fact every class of hemorrhage in which ligation is unnecessary or impractical or surgical means are unattainable.

The Diagnosis of Appendicitis in Pregnancy.

John Sheahan (*Canadian Practitioner and Review*, August, 1904) says the diagnosis of this condition is difficult for many reasons. A uterine tumor of variable size filling the pelvic and abdominal region offers resistance and prevents palpation. The abdominal muscles are on the stretch, rendering it difficult to estimate the amount of guard tension. The intestines are pushed

up so much that in one case reported by Mixter the appendix was found at the lower end of the kidney. In the case reported by the author, the original pain was located as high as the edge of the liver, and in two days as over the bladder. Great difficulty is experienced in working out the outlines of an appendiceal tumor. Abraham declares, however, that there is always a certain uniformity in the symptomatology, differing only in the severity of its expression:

1. Almost always a history of constipation.
2. The sudden onset of acute abdominal pain, especially severe in the right iliac fossa.
3. The subsidence of the diffuse pain and its localization over the region of the appendix.
4. Vomiting.

Operation upon Benign Diseases of the Stomach.

F. T. Murphy and F. B. Lewed (*Boston Medical and Surgical Journal,* Aug. 4, 1904) conclude: (1) Surgical intervention in gastric hemorrhage should be considered at once in consultation of physician and surgeon. In females under thirty years conservatism is desirable. In cases in which life is threatened gastroenterostomy should be done at once. (2) Mortality in operations for perforation is chiefly dependent on the length of time after the perforation occurs when operation is undertaken, and the virulence of the infection. (3) In chronic ulcers or strictures of the pylorus, postponement of operation when indicated is dangerous, owing to the possibility of hemorrhage, perforation, and exhaustion. (4) Errors in surgical technique and the choice of operations now known to be unsuitable account for about half the deaths.

Surgical Procedures for the Relief of Infantile Paralysis of the Lower Leg.

John Dane and D. Townsend (*American Journal of Orthopedic Surgery,* August, 1904) says that while tendon transplantation may in certain cases yield a satisfactory result, the selection of cases for this operation should be much more careful than it was three or four years ago, and that for the great majority of hospital cases either astragalectomy or arthrodesis offers by far the greatest promise for obtaining a strong, useful foot several years after the operation.

MEDICINE.

Rectal Constipation in Women.

G. P. Murray (*Medical Record,* Aug. 6, 1904) says that it is generally recognized that women for various reasons are most subject to constipation; nevertheless rectal constipation, from which a large number suffer, has received at the hands of the profession scant consideration.

Rectal constipation may be but is rarely due to a nervous condition—*i.e.,* nervous rectum. While it may occur as the result of inflammatory conditions, such a hemorrhoids, fistulæ, and fissures, which are common to men and women alike, in very many cases it is occasioned because of the peculiar anatomical construction of the parts and is mechanical in its origin. Anteversions, retrodisplacements, neoplasms, especially fibroids and periuterine inflammations, obstruct the downward passage of the feces. Conversely, owing to the close juxtaposition of the rectum and the genital organs of the woman, a loaded rectum in its turn may occasion ovarian and uterine displacements and disorders.

A form of rectal constipation which heretofore has received but little recognition is that which occasions and is the result of the pulling down of the rectovaginal septum, thereby forming a pouch, constantly increasing in size, changing the direction of the intra-abdominal rectal pressure to that of the vaginal, which is at right angles to it, and making it difficult for the rectal sphincters to relax so as to void the contents of the bowel. The result is not only to render defecation difficult but incomplete. The retention of fecal matter causes rectal irritation and autointoxication. This condition occurs not only in women who have borne children, but in nulliparæ and the unmarried, although not so frequently in the latter.

In regard to treatment, cathartics may be useful in those cases in which the obstruction is due to inflamed and displaced organs or neoplasms, which prevent the descent of the contents of the bowels, and in which the hardened masses of the feces press and inflame the genital organs, but would be useless in those cases in which there has been a displacement of the rectovaginal wall. In such cases glycerin or gluten suppositories, or injections of small amounts of olive oil, glycerin, or soothing fluids, may be employed. The use of daily enemata, as ordinarily practiced, is to be reprehended from every point of view. The use of

bougies or dilators may prove beneficial. For constipation of purely rectal origin, massage, electricity, and measures designed to improve peristaltic action are of no avail.

The Diagnosis of Diphtheria.

At a recent meeting of the Paris Société des Internes et des Anciens Internes des Hôpitaux de Paris, D. Martin (*Medical Record*, Aug. 27, 1904) gave an interesting report on the diagnostic measures in diphtheria. Clinical signs should, in his opinion, have the first place in the diagnosis of diphtheria. It is true that the bacteriological diagnosis is certain, but it is useless to lose time by making it; it is better to give subcutaneous injections of antidiphtheritic serum, otherwise one will lose precious time. Bacteriological diagnosis should come, then, after the treatment, and it should be well done. The serum used should be perfectly clear; the spatula designed for coming in contact with the false membrane should not be contaminated by touching the lips, gums, teeth, etc. The colonies should grow in eighteen to twenty-four hours. Under the microscope both long and short bacilli may be seen. It has been thought that the latter were only pseudodiphtheritic bacilli, but in reality no one point by which differentiation has been claimed is characteristic. There is but little difference, and the short pseudodiphtheritic bacilli are only attenuated diphtheria bacilli.

Typhoid Orchitis.

S. T. Darling (*Maryland Medical Journal*, August, 1904) reports the following case:

A man aged forty-two years, with a chronic enlarged left testicle, developed during a mild attack of typhoid fever an orchitis in the same organ. The corresponding epididymis was enlarged, and there was an effusion into the tunica vaginalis of the right side. The inflammation appeared about the seventeenth day of fever, and the duration was about eight weeks. There was a marked rise of temperature at the onset of the inflammation. A leucocytosis of 14,800 occurred. The inflammation was purulent in character, and the bacillus typhosus in pure culture was obtained from the pus. A bouillon culture was agglutinated in a dilution of 1 to 40 by the patient's own blood. There was subsequent atrophy of the gland.

The Influence of Daylight on the Progress of Malaria.

G. Busck (*American Journal of the Medical Sciences,* July, 1904) says the special effect of quinine in malaria can hardly be explained as a direct outcome of its toxicity with regard to plasmodiæ, although this undoubtedly is very considerable, and if we look for an explanation of this effect we must not leave out of consideration a peculiarity so distinct as the power to make microörganisms sensitive in relation to light. Quinine preparations have decided sensitiveness-arousing qualities. Parameciæ, which are placed in solutions of quinine of 1:20,000, first die after about five hours when standing in the dark, while they are killed in eight minutes if placed in sunlight, under conditions which generally have no baneful effect upon parameciæ. According to experiments, light, even after having passed through a layer of animal tissue, can exercise its microbicidal effect upon the sensitive-made organs. The depths at which it will be possible to obtain an effect will, among other things, depend upon the intensity of the light. The tissues of the human body are pellucid, and if only a comparatively small part of the body surface is exposed to light, the blood, and the plasmodiæ with it, will on account of its continuous circulation be affected by the light. If these views are correct malarial patients should be treated with sun-baths or electric light baths in addition to quinine, as it would seem that daylight can increase the favorable effect of quinine preparations upon malarial patients.

Arthritis Deformans and its Treatment.

L. Kolipinski (*Medical Record,* July 23, 1904) reviews the etiology and symptoms of this affection, and recommends treatment under the following headings: (1) Relief from pain; (2) correction of stiffness, rigidity, and contractures; (3) increase of the muscular strength; (4) cure of the anemia; (5) increase when necessary of the body weight; (6) treatment of the heart.

To accomplish these ends three agencies are necessary, no one or two of which would suffice: For the pain, anemia, weak pulse, and malnutrition, arsenic; for stiffness, contracture, and muscular atrophy, voluntary exercise; for the weakness, loss of weight, and pain, improvement of the nutrition by increase and selection of the food supply. The arsenic is used for a year or more. It might be given in the form of Fowler's solution, the arsenite of zinc, or hypodermic injections of the acid, according to the vari-

ety and indications. He lays stress upon the value of voluntary exercise and dietetic treatment. The diet should be liberal, varied, and mixed.

Bacteriuria.

E. L. Keyes (*New York Medical Journal,* Aug. 27, 1904) says that bacteriuria is evidently not "a simple urinary infection without parietal lesion." The theory that bacteriuria is but a symptom of catarrh in certain parts of the urinary tract is on the other hand fully in accord with the observed facts. Thus bacteriuria is a symptom, not a disease; yet is the chief, the only striking, feature of certain diseases, notably certain varieties of catarrhal pyelitis. Such are typhoid pyelitis, puerperal pyelitis, acid retention pyelitis. Any of these may become suppurative. It would further appear that cystitis never causes bacteriuria. Prostatitis and spermatocystitis exceptionally cause bacteriuria.

Laryngeal Tuberculosis.

R. H. Skielern (*Pennsylvania Medical Journal,* August, 1904) says local treatment is always beneficial even if it only relieves the most distressing symptom—*i.e.,* pain. The prognosis depends more upon the general systemic condition of the patient than upon the throat lesion, it naturally following that the more severe the throat lesion the greater the degree of constitutional weakness.

If a case of laryngeal tuberculosis is seen at an early stage of its development, the prognosis is good providing the concomitant lung disease is responding to treatment.

The best results are obtained when the tuberculous deposit in the larynx is localized.

Ultramicroscopic Bodies in the Blood.

Raehlmann (*Deutsche med. Wochenschrift,* No. 29) finds that the dark field illumination has developed new and valuable ideas regarding the structure of the red and white blood cells, the contents of which show a constant and lively movement. The lymphocytes also contain these moving bodies. In the serous fluids and in the blood serum yellow moving bodies and gray particles may be discerned; these are possibly albumins of broken-down erythrocytes, which may play an important rôle in the metabolism of the body.

THERAPEUTICS.

The Treatment of Chronic Myocardial Disease.

A. A. Stevens (*American Medicine,* Aug. 6, 1904) says, in regard to special treatment, that strychnine appears to be the most generally useful drug. In doses from 1 to 2 milligrammes (1/60 to 1/30 grain), two or three times a day, it rarely fails to be of some benefit. When there is anemia iron is a useful adjuvant. Arsenic in small doses over long periods is often of the greatest service. Balfour considers that "arsenic is indispensable in all forms of weak heart accompanied by pain." He recommends it in combination with iron and strychnine twice a day, after food. Nitrites usually prove very beneficial in cases in which high arterial tension, anginoid pains, or cardiac asthma are prominent symptoms. Huchard and others have spoken in the highest terms of the prolonged use of the iodides, especially when angina pectoris is a feature of the cardiac failure. They are most effective, as Osler has pointed out, in robust, middle-aged men in whom the angina is the sole symptom. They are contraindicated when the myocardial disease is associated with advanced arterial degeneration and chronic nephritis. Digitalis is of service in some cases. It must be used tentatively, however, since not infrequently it does more harm than good. The less advanced the degeneration the more likely is it to be useful. Large doses are generally badly borne, but persistently employed in doses of .12 to .18 cubic centimeter (2 to 3 minims) of the tincture, twice a day, it often exerts a most favorable tonic effect. Even with these small doses of digitalis it may be necessary to guard against the constricting influence of the drug on the arterioles by combining with it a vasodilator, such as nitroglycerin or sodium nitrite. In some cases the tincture of strophanthus, in doses of .18 or .24 cubic centimeter (3 or 4 minims) twice a day, proves more efficacious than digitalis. When neither digitalis nor strophanthus is well received, caffeine, sparteine, or cactus may be tried.

The Treatment of Paroxysmal Tachycardia.

James Barr (*British Medical Journal,* July 16, 1904) in discussing the treatment of paroxysmal tachycardia says: "Put the patient in bed; freely use such agents as amyl nitrite, nitroglycerin, etc., to lessen peripheral resistance and equalize the

amount of blood in the two sides of the heart. Encourage the patient to take long, deep breaths so as to aspirate the blood from the right side of the heart into the lungs, and thus give a better supply to the left ventricle. Counter-irritation might call into play the reflex cardiac contraction of Abrams. If, after the preceding measures have been carried out, the hyperdistended right ventricle does not properly contract, then the addition of digitalis or of digitalin and strychnine is required. A good brisk purgative to clear the portal circulation. The diet should be as dry as possible, so as to avoid the addition of fluid to the over-repleted veins and right side of the heart."

Injection Treatment of Internal Hemorrhoids.

C. F. Martin (*American Medicine,* Aug. 27, 1904) outlines his technique as follows:

1. Examine the patient.
2. Divulse the sphincters under nitrous oxide.
3. Apply hot compresses for five minutes after this operation.
4. Give patient a rest of from four to seven days.

When he returns for treatment: (1) Place in Sim's position; (2) wash off anal skin; (3) make digital examination to find state of muscle; (4) insert conical speculum with obturator; (5) remove obturator; (6) select largest hemorrhoid for treatment; (7) let patient prolapse this into speculum by coughing; (8) swab off surface of piles with some antiseptic solution; (9) inject from .42 to .60 cubic centimeter (7 to 10 minims) of equal parts of phenol Bobœuf and distilled water freshly prepared directly into the center of the pile; (10) withdraw the speculum before removing the hypodermic syringe; (11) insert a suppository of ichthyol .18 cubic centimeter (3 minims); (12) inject only one pile at a treatment; (13) make the treatments from four to seven days apart; (14) insist upon a daily evacuation of the bowels.

Treatment of Hypertrophic Acne of the Nose.

H. Dubrewilk (*British Medical Journal,* June 25, 1904) states that in the early stages of acne hypertrophica, diet, a local spray of sulphur lotion, and electrolysis of the enlarged sebaceous glands are sufficient. But when hypertrophy occurs with deformity and tumors of the nose, surgical measures only are satisfactory. The author prefers thermocautery to the knife, and con-

siders grafting undesirable if this is used. When the knife, however, is used, skin-grafting may hasten recovery and prevent cicatricial contraction. Under an anesthetic a median incision is made, and each half of the tumor dissected off the nose, the operator using a finger in the nostril as a guide. Successive slices are then peeled off, until a distance of about half a centimeter separates the surface from the guiding finger. Bleeding is arrested by the thermocautery. Suppuration usually occurs owing to the septic crypts in the sebaceous glands. Wet boracic dressings are applied. The slough is usually shed in a week. At the end of the second week islands of epidermis develop with patches of granulation tissue between them. The latter should be grafted. The final result is excellent, those parts of the wound in which sebaceous glands were left having their orifices as in normal skin. Those parts which were grafted are recognizable as being formed of other skin, but the general effect is natural.

Treatment of Chronic Colitis.

J. Shoup (*American Medicine,* Aug. 27, 1904) treats the attack of pain which precedes the passage of mucus by a hypodermic of morphine and atropine, and promotes thorough evacuation of the bowels by large doses of castor-oil by the mouth, and high enemas of oils or of alkaline solutions.

A carefully selected diet to suit the individual case, after a chemic examination of the stomach contents has been made. Assist digestion and allay fermentation. Keep the bowels open by means of oils by the mouth, which have the double office of laxative and lubricant. Apply suitable support to overcome any ptosis of the abdominal organs. Local treatment by means of astringent enemas and oils, and topical application of the same when necessary. See that the patient gets sufficient rest in the recumbent position, and when practical a change to the air of the mountains or seashore.

The Treatment of Neurasthenia.

F. P. Norbury (*Medical Fortnightly,* Aug. 25, 1904) says that neurasthenia is not a disease to be treated by drugs. They have their place, but a very minor one, in the scheme that accomplishes results. Physical therapeutics, with the addition of intelligent nursing, and above all the gaining and keeping of the confidence of the patient by the physician, is necessary. Discourage-

ment should never be mentioned in the presence of the patient. The spirit of hope, enlivened by work and full belief in our own capabilities, is the food upon which neurasthenics thrive and are cured. They act through the agency of the mind and are essentially psychotherapeutic measures. This fact proves, and in a striking way, that neurasthenics should be considered from a psychopathological standpoint, and that in dealing with them we are clinical workers in mental disease.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicne.

Retrodeviations of the Uterus.

E. J. Meelish (*American Medicine,* Aug. 27, 1904) says that rarely is retroversion congenital, and it is common in virgins. It is probable that improper clothing during the period of puberty, together with lack of exercise and of development, acts as a causative factor in fully as many cases of retrodisplacement as subinvolution after parturition. Retroversion is essentially a pathologic condition, in that it is, either directly or indirectly, in the majority of cases, a source of discomfort or disease. Retrodeviations are present in at least fifteen per cent of all gynecologic patients. The intelligent use of the pessary will effect a cure in a large percentage of the cases, but when used unintelligently the pessary is positively dangerous, as is the case with most surgical instruments and appliances. Surgical treatment of retrodeviations is absolutely essential to a cure in a large proportion of the cases. The Alexander-Adams operation of shortening the round ligaments is right in principle, and will more or less modify and maintain its position as a classic operation for the cure of retrodisplacements. No method of shortening the round ligaments within the abdomen will effect a cure in nearly all cases, because these methods fail to eliminate the weakest part of the ligament, the portion within the inguinal canal. The Gilliam modification of the Alexander-Adams operation is the operation of choice in these cases, because it is easy of execution and meets all the indications for the successful treatment of the displacement, and of intra-abdominal complications which may be present. Ventral suspension and ventral fixation are "unphysiologic" operations.

They should not be performed in the case of patients susceptible of childbearing. Vaginal operations for retrodeviations in fruitful women are mentioned only for condemnation.

The Relations Between Carcinoma Cervicis Uteri and the Rectum.

John A. Sampson (*Johns Hopkins Hospital Bulletin,* June, 1904) says that the relation between carcinoma cervicis uteri and the rectum may manifest itself in the rectovaginal fistulæ which result from a necrosis of the growth which has involved the rectum in the posterior extension of the disease, and also in accidental injuries to the rectum occurring during hysterectomy for the disease.

The relation between the uterus and the rectum varies under different conditions, and is dependent on the position of the uterus in the pelvis, whether in normal anteposition or retroposition, and especially the left and right lateral positions of the uterus. Descensus of the uterus also changes the relation between the two organs. The position of the uterus in the pelvis is a most important factor in determining what surrounding tissue may be invaded in the extension of the growth from the cervix.

The rectum may be invaded by a direct extension of the growth either through the cul-de-sac, the two surfaces of which have become adherent, or the posterior vaginal wall may become involved and the rectum secondarily invaded from the vagina, or in the lateral positions of the uterus the growth may extend across the obliterated cul-de-sac from the parametrium, which lies in front of the rectum, and which may have been invaded by the growth.

The first demand in the more radical operations for carcinoma is a wide excision of the primary growth, and portions of the rectal wall may be sacrificed and repaired if involved by the growth.

Pregnancy After the Removal of Both Ovaries.

W. A. Meredith (*American Medicine,* Aug. 6, 1904) states that during the past few years a number of instances of pregnancy originating subsequent to the removal of both ovaries have been reported. He reports an additional case. The patient was a woman of thirty-five, recently married, when she became troubled

with nausea, and there was enlargement of the abdomen. At first only pregnancy was suspected; later it was suspected that there was double ovarian cystoma, probably dermoids, complicated by an early pregnancy of some eight weeks' duration. Operation was performed. The probable diagnosis was confirmed. Both ovaries were removed, and the Fallopian tubes were ligated as far from the pregnant uterus as could be conveniently done. It was hoped that a miscarriage would be averted, but this was disappointing, abortion occurring some forty-eight hours later.

The woman was seen a year later, when she stated that for the past three months she had menstruated regularly; a year thereafter menstruation, which had been regular, failed to appear, nausea supervened, which persisted for twelve weeks, and at the proper time movements were appreciated. She accidentally slipped and fell, which induced premature labor, and a five months' fetus was expelled. The patient made a perfect recovery, and since then menstruation has occurred regularly.

The author believes that the reëstablishment of menstruation followed by pregnancy in this case is explained by the theory that some portion of ovarian tissue capable of maturing follicles was left untouched by the operation, and that the patency of one or both Fallopian tubes was subsequently restored. His belief is that the ovarian tissue in question consisted of an outlying portion in connection with the uterine extremity of one or other ovarian ligaments. The probability of there being a third ovary, with its accompanying Fallopian tube, was not considered likely.

Nasal Dysmenorrhea.

G. Kolischer (*American Journal of Obstetrics,* June, 1904) says the right to proclaim nasal dysmenorrhea as a clinical entity is not established. The influence of cocaine upon dysmenorrhea attacks can be explained by the general intoxication of the system with this alkaloid. Every patient suffering from menstrual pains has to be examined as to general hysteria. Administration of cocaine, especially in nervous patients, is not to be recommended on account of the deleterious influence of this drug upon the nervous system, and on account of the danger of educating cocaine fiends. In cases in which no anatomical abnormalities and no hysterical foundation is to be found, massage and gymnastics should be administered, or the patient should be advised to ride a bicycle.

Absence of Vagina: Bladder Injected in Error.

D. Mond (*Centralblatt für Gynäk.*, No. 7, 1904) was consulted by a lady aged forty on account of absolute amenorrhea. The vagina was completely wanting, and there was no trace of a uterus or ovaries to be detected on examination. Some years before she came under his care this patient consulted a doctor on account of abdominal pains. For three days injections of lysol were thrown into the bladder. The result was, as might have been expected, severe pain and vesical catarrh.

NEUROLOGY.

UNDER THE DIRECTION OF CHARLES W. HITCHCOCK, M.D.,
DETROIT, MICH.,
Attending Neurologist to Harper Hospital.

Uses of Ergot.

Few drugs have any more enthusiastic worshipers of their virtue than has ergot in the person of Dr. A. T. Livingston, of Jamestown, N. Y., who, in the August 27 number of the *Journal of the American Medical Association,* writes of ergot in general practice. He is a firm believer in the efficacy of this drug as a regulator—an evener, if you please—of intravascular pressure. He speaks of its uses in disorders of blood-vessels, febrile diseases, surgical cases, and the functional neuroses.

He commends for use a solution made by dissolving extract of ergot (alcoholic) ʒj in a saturated solution of chloretone (gr. ij to ʒj) ʒj, and then adding chloretone gr. ij and shaking gently. This is a safe solution to keep for short periods at least. This solution is administered hypodermically in doses of ʒss to ʒij, considerable time being taken for each injection.

Of nervous conditions to which the drug is most satisfactorily applicable he cites nervousness, from its simplest type to the intense agitation of the reaction from alcoholic and drug addiction; headache; that most common form of pain, neuralgia; insomnia. Unstriped muscular fiber is promptly toned up, and a better intravascular condition thus induced. He cites a case where sleep was almost immediately induced in a patient exhibiting that intense restlessness incidental to the habitual taking of large amounts of morphine, this sleep continuing almost unin-

terrupted for sixty hours, and no shock from the withdrawal of the drug being felt.

The all-over ache of developing fevers, the pain of pneumonia and of angina pectoris, he has also been able thus to promptly relieve.

Arresting an Epileptic Convulsion.

The August number of *Treatment* calls attention to the note contributed by Dr. J. C. Conaghey (Macclesfield) to the *British Medical Journal*, describing a very simple plan for arresting epileptic attacks. This consists simply of turning the patient, when in convulsion, onto the left side, and holding him in that position. The effect is said to be quite startling in the rapid abatement of the convulsive movements. The muscles become flaccid, and the color of the face more natural. No clonic spasms continue. It certainly is a harmless procedure and worth trying.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Linear Nevi.

M. L. Heidingsfeld (*Journal of the American Medical Association*, Aug. 27, 1904) says that linear nevus is a dermatologic affection, for the most part easily recognized as a type *sui generis* possessing an unmistakable identity. Great variations in clinical appearance, location, duration, distribution, development, and secondary changes have permitted an endless amount of unnecessary confusion in classification, and an unfortunately redundant nomenclature. It also possesses an exceedingly varied pathology. Great disparity in histologic structure exists between lesions in close proximity from the same patient; a deceptive histologic resemblance often exists between lesions of linear nevi and types of dermatologic affection, totally different in character. The affection aptly illustrates some foibles of present-day dermatology, namely, the tendency to individualize and thereby complicate rather than generalize and thereby simplify single types in classification; and secondly, to give to dermatologic pathology an inflated diagnostic rather than a mere confirmatory value.

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ORIGINAL CONTRIBUTIONS.

GLANDS OF THE CYSTIC DUCT (GLANDS OF THEILE).

BY BYRON ROBINSON, B.S., M.D., CHICAGO.

The wall of the cystic duct contains glands. The glands of the cystic duct are located in the greatest number adjacent to the junction with the hepatic duct. The glands of the cystic duct are irregular in *number* and *distribution*. In certain cross-sections of the cystic duct one may count as high as sixteen glands. In half a dozen cross-sections of the cystic duct the average number of glands was eight. These so-called glands of the cystic duct consist of epithelial tubes of various lengths and forms, evaginating into the subepithelial tissue of the duct wall. They are blind ramifications of the diverticula of the cystic duct, receptacles for bile. Some of the glands have the forms of crypts or follicles, others resemble a cluster of grapes or a bunch of currants, hence should be termed racemose or acinous glands; while still other glands possess an extended form with an occasional branch or arm.

The glands in the wall contain *epithelium* of the same type as that lining the cystic duct—*i.e.*, extended, elongated, cylindrical, palisade-like epithelium with the cell nucleus in the basal third, resembling precisely the epithelium of the cervix uteri, or, to a less degree, the epithelium of the tractus intestinalis.

The *length* of the cylindrical epithelium of the glands decreases as the dimension of the gland decreases. These various-shaped evaginated epithelial tubes are diverticula of the lumen of the cystic duct. They are cæcal or blind epithelial ramifications located at any point of the circumference of the cystic duct. With a strong lens one can observe the exit of the ducts on the surface of the mucosa of the cystic duct.

The *dimensions* of the glands of the cystic duct are limited. However, the walls of the cystic duct are thick, since they are confined within its walls.

The diameter of the lumen is about four times the thickness of the wall of the duct. The diameter of an ordinary gland of the cystic duct measures about 1/150 of an inch, while the thickness of its wall would be perhaps 1/400 of an inch.

The *direction* of the exit channel of the diverticula of the cystic duct may be chiefly perpendicular to the mucosa, while others open obliquely into the mucosa, yet some will course parallel to and immediately beneath the cystic mucosa for extensive distances. The extended or elongated tubes suggest a glandular plexus arrangement.

FORM OF THE GLANDS.

We shall assume three forms for the glands in the wall of the cystic duct. However, the form of a gland does not indicate its function:

1. *Racemose.* The glands may assume the form of a cluster of grapes or bunch of currants, and hence should be designated racemose glands (glandulæ racemosæ ser glandulæ acinosæ). The racemose or acinous glands resemble Brunner's glands in the duodenal wall. The glands are of the compound or composite order, the branches or ramifications of which continually converge like those of a tree into a single exit channel. The acinous glands may be located at any point of the circumference of the cystic duct. The compound glands extend through extensive areas of the cystic duct wall. Occasionally the peripheral ramifications of the racemose glands extend like the branches of an oak to the external borders of the cystic duct.

2. *Follicles.* The glands of the cystic duct may assume the form of a follicle or crypt. The follicles are arranged irregularly in rows and are quite numerous in the cystic duct. The follicle opens into the cystic duct with a narrow or wide mouth. Some follicles penetrate into the cystic duct wall for a considerable distance, or are located immediately beneath the mucosa. The follicle may be a cæcal pouch, flask- or tube-shaped.

3. *Extended tube glands.* Some of the epithelial tubes located in the cystic duct wall assume an extended, stretched, elongated condition. They resemble the Meibomian glands. These tubes may be located in any segment of the duct wall. The extended gland or epithelial tube courses practically parallel

to the mucosa of the cystic duct. It may present projecting arms of limited caliber which have radiating angles, the arms lying in contact with the extended gland tube. Not infrequently one observes an extended gland in the wall of the cystic duct coursing immediately beneath the epithelium, or farther toward the periphery of the duct wall, for a sixth of the circumference of the entire cystic duct. These tubes may be modified compressed racemose glands. The extended glands are located between the acinous glands.

FUNCTION OF THE GLANDS OF THE CYSTIC DUCT.

The glands of the cystic duct may be viewed, not as appendages of the cystic duct as a whole, but as appendages of its lumen—simply as numerous diverticula, cæcal pouches, bile receptacles, which, possessing epithelium similar to that of the mucosa of the cystic duct, serve a similar purpose. Perhaps the glands preponderate in mucous secretion. The numerous glands in the wall of the cystic duct no doubt secrete large quantities of material fluids and biliary salts, which aid in the functionating of the cystic duct as a transporting canal, a waterway. The epithelium of the glands and mucosa of the cystic duct, being of the same type, can scarcely be separated as to function. The function of the cystic duct is peristalsis, absorption, and secretion. Its object is an import and export channel. It accomplishes its object mostly as a waterway, a drainage canal, and hence requires a vast surface mucosa to secure ample fluids, which not only aid in maintaining biliary salts in solution and apposition to bacteria, but also aid in the passage of calculus. The large number of glands located in the wall of the cystic duct would indicate some significant purpose and important function, yet from the time of their discovery by Theile in 1844 until the present investigators have varied in opinion as to the utility of the glands of the bile-ducts.

THE PATHOLOGY OF THE GLANDS OF THE CYSTIC DUCT.

The glands in the wall of the cystic duct may no doubt become infected when a calculus or other infectious agent passes through the duct, prolonging indefinitely the septic state. The epithelium of the cystic duct disintegrates with such facility that it is difficult to secure a specimen with intact epithelium, hence atria of infection wounds are produced with facility. It is improbable the retention cysts would be formed in glands of

such limited length and such relative expansive caliber. If the mucosa of the cystic duct becomes infected, the same infective agent will penetrate the lumen of the glands of the duct wall, and the bacteria will enjoy special privileges of quietude and nourishment ensconced within the rich mucous diverticula. When the pathologic agent that infected the mucosa of the cystic duct has passed to its elastic and muscular apparatus, inflammatory and exudative products tend to produce paresis

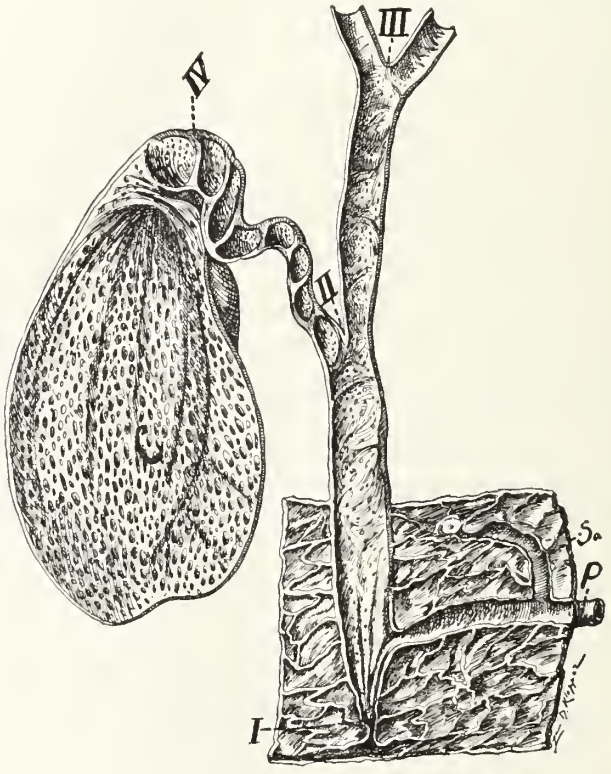

FIG. 1.—The mucosa of the Cystic Duct. Drawn from a specimen which was injected with red lead mixed with starch. The ductus bilis and pancreatic ducts were incised longitudinally; the material was evacuated from the ducts, when the interior of the ducts presenting a distended mould was sketched as a model by the artist, Mr. Zan D. Klopper. II to IV, ductus cysticus. Heister's valves are well demonstrated. The valves of Heister are moon-shaped, mucous folds extending irregularly across the lumen of the duct without regard to its axis. This specimen presents nine valves.

of the wall of the cystic duct—*i.e.*, elastic and muscular tissue. Hence the glands in the duct wall are imperfectly evacuated, from paresis of the elastic and muscular elements. The result is progressive hypertrophy of the wall of the cystic duct with progressive loss of peristalsis. The glands of the bile-ducts

were discovered by Frederic Wilhelm Theile (1801-1879), a German anatomist, in 1844, hence they should be known by the eponym "Theile's glands." Theile called them glands of the bile-ducts (Gallengang-druesen).

CONCLUSION CONCERNING THE GLANDS OF THE CYSTIC DUCT.

1. The glands of the cystic duct are epithelial evaginations or diverticula of the lumen.

2. The glands lie within the wall of the cystic duct.

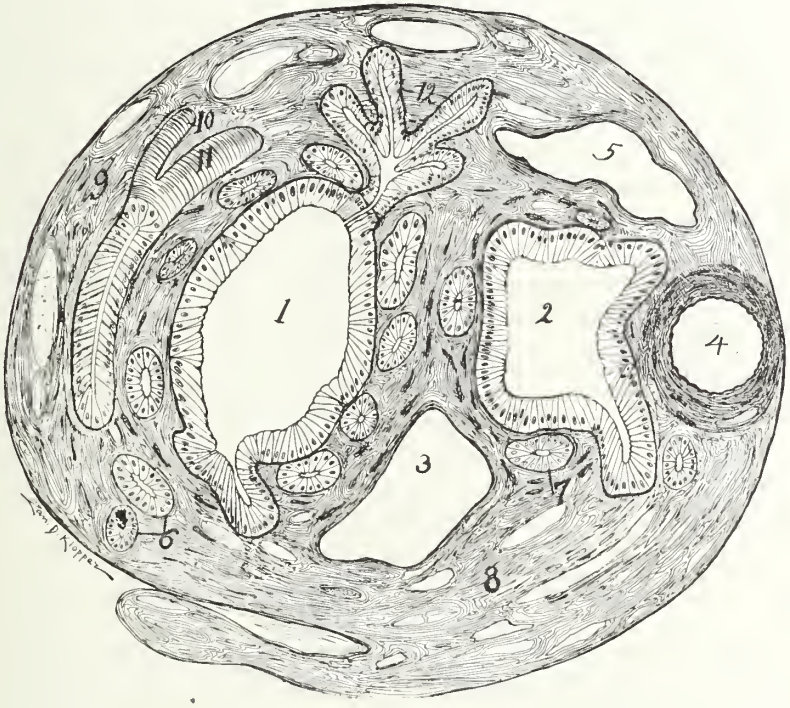

FIG. 2.—Glands of the Ductus Cysticus (Glands of Theile). Cross section of the ductus cysticus and ductus hepaticus at the bifurcation. From a girl of nine years old dying of sarcoma of the kidney. The epithelium was hypertrophied. 1, ductus cysticus; 2, ductus hepaticus; 3 and 5, veins (portal); 4, arteria hepatica; 6, glands of the cystic duct; 8, walls of the cystic duct; 9, walls of the hepatic duct; 10, arm of tubular or elongated gland; 11, tubular, elongated gland. The cystic duct is surrounded by the compound gland No. 12 and the tubular or elongated gland Nos. 10 and 11. In the cystic duct no crypt is present because of the artist's oversight. The epithelium of this subject was hypertrophied, due to metastasis of the sarcoma from the kidney to the liver. The specimen is highly magnified.

3. The glands, irregular in distribution and number, have their exit in the entire circumference of the cystic duct.

4. The glands are located almost exclusively in the segment of the cystic duct adjacent to its junction with the hepatic duct, practically ceasing toward the pelvis of the gall-bladder.

5. Since the glands of the bile-ducts are practically not associated with the liver parenchyma, but with the extra-hepatic ducts, they cannot be viewed as a general glandular system, but as an additional apparatus of the extra-biliary channels.

6. The glands of the cystic duct do not appear to be remnants, as they are relatively more extensive in the adult than in the infant.

7. The forms of the glands of the cystic duct are: racemose (resembling Brunner's), follicular, and extended tubular (resembling the Meibomian).

8. The function of the glands of the cystic duct is to secrete fluid and biliary salts; and, having epithelium of a similar type to that of the cystic duct, they must serve similar functions and purposes.

9. At the present time opinions vary as to the function, purpose, and object of the glands of the cystic duct. The significant number of the glands, their isolation from the liver parenchyma, their location in the extra-hepatic ducts, and their relatively greater dimensions in adults than in infants, place the glands of the cystic duct under advisement.

CLINICAL LECTURE.*

BY DANIEL N. EISENDRATH, A.B., M.D.,

Adjunct Professor of Surgery, College of Physicians and Surgeons, Chicago; Attending Surgeon to the Cook County Hospital, etc., Chicago, Ill.

ANESTHESIA.

Gentlemen—We may divide anesthetics into general, local, and those which act upon the spinal cord and its nerves. The latter is called spinal anesthesia. The general anesthetics which we most frequently employ in this clinic are ether and chloroform. It is the custom in some clinics to precede the administration of ether by the use of nitrous oxide, so as to prevent the usual struggling stage which precedes complete anesthesia under ether. If, however, the ether is carefully given in the manner to be described shortly—that is, upon a mask—there is little of the usual asphyxiation, and the duration of the stage of excitation is not much greater than that with the use of nitrous oxide.

The method of administering chloroform is to pour it drop

*Delivered at the College of Physicians and Surgeons.

by drop upon a mask which is covered with four thicknesses of ordinary gauze. This allows of the proper mixture of air and chloroform, which should be about 3 parts of chloroform to 97 parts of air. It is customary for us to have the anesthetics given by senior students in rotation, in order to have them acquire as much experience as possible in this direction before graduation. Two graduates are assigned to instruct these students in the administration of anesthetics, and in the case of chloroform the student is cautioned to continually observe the condition of the pupil, the rate and tension of the pulse, and in general the color of the patient's lips and face, if possible. If these details are observed, and the chloroform carefully given drop by drop, it is almost as safe an anesthetic as ether. In general, however, I much prefer, where cases are apt to rapidly follow one another, to use ether, and it is this anesthetic which we frequently use in our clinic.

The method of giving ether is to use the same Esmarch mask with which we administer chloroform, employing eight layers of gauze instead of four. The ether is placed in a specially marked bottle, so that the amount can be accurately measured, and it is given in small quantities, but more rapidly than in the case of chloroform. In children this method of administration of ether is ideal, so that I have given up entirely the use of chloroform in children. My reasons for doing this are that children are much more apt to have syncope under chloroform than adults, and although resuscitation is much easier, on account of the more mobile condition of the thoracic wall, yet the superiority of ether has proven itself in many ways. In ether anesthesia it is not necessary to observe either the pulse or the pupils as constantly as in the case of chloroform. The chief point is to prevent postoperative pneumonias, which, it has been shown, are in great measure due to the aspiration of infected saliva from the mouth and upper air-passages. This can be prevented by keeping the patient's head as low as possible, so that bronchial mucus and the saliva have an opportunity to run out of the mouth, from which they are sponged from time to time, and their aspiration prevented. The anesthetizer is warned, however, to watch the color of the patient, and in case of cyanosis to catch the jaw and pull it forward in the following manner: The thumbs of both hands are placed behind the ramus of the jaw and the remaining fingers of each hand distributed along the body of the jaw; traction is then made upon the

jaw in an upward and forward direction, as though one were trying to produce an anterior dislocation of the bone. This maneuver serves to lift up the muscles and bony supports of the tongue, so that air can enter freely into the opening of the larynx. If this method is properly used by the anesthetizer, it will seldom be necessary to pull out the tongue with forceps. If, however, there is a considerable secretion of mucus, so that the patient becomes cyanosed, and there is considerable rattling, it would be well either to pull the patient's tongue out with a curved vulsellum forceps, which is the most humane for this purpose and inflicts less damage upon the muscular tissue of the tongue, or to combine with it systematic swabbing of the throat with gauze sponges inserted into the jaws of eight-inch forceps. The mucus which gives patients most trouble under ether accumulates near the base of the tongue over the entrance to the larynx, so that it is almost useless to try and remove mucus with a short forceps.

There are certain contraindications to the use of ether, and others to the use of chloroform.

First, in general, ether should not be given to patients with acute or chronic pulmonary affections. Secondly, it should not be given to patients suffering from any form of nephritis. This second contraindication may be disputed by some surgeons, but I have found that the more careful I am in this direction, the less apt is a uremic condition to follow ether anesthesia. We may give ether to patients with nephritis, especially of the chronic interstitial type, five times in succession without any ill results, and the sixth time it will light up the kidney trouble, and be followed by suppression of urine and uremia. Thirdly, ether should be avoided in patients with a considerable degree of arteriosclerosis, even though its administration be preceded by nitrous oxide, for the reason that it greatly increases arterial tension, and the struggling incident to the administraion of ether may be followed by apoplectic seizures.

1. Chloroform should not be given to patients who are suffering from myocarditis. It may, however, be given to patients with all other forms of heart trouble, if carefully administered. This again may seem contrary to the teaching of some surgeons, but it is based not alone upon my own personal experience but upon the observations of very many other surgeons, who have used it under these conditions in all forms of valvular cardiac disease with impunity.

2. Chloroform should not be given to patients who are suffering from sepsis, or who have sustained a considerable loss of blood. The contraindication under these circumstances is that the toxins of the septicemia have already lowered the vitality of the heart muscle to such an extent that chloroform may cause death much easier than it would under ordinary circumstances. In the case of those who have suffered either from primary anemia, such as follows the loss of a large amount of blood, or a secondary anemia, such as accompanies sepsis, the blood-pressure is greatly lowered, and the tendency of chloroform to decrease blood-pressure under normal circumstances gives rise to a dangerous combination.

The local anesthetic which I most frequently employ is cocaine, either with or without the use of adrenalin in the form of the Schleich solution. The tablet which I use is of such a strength that when one of them is added to three ounces of distilled water, it forms a solution in which the respective strengths are as follows: One-quarter of one per cent morphine, one-fifth of one per cent cocaine, and six-tenths of one per cent normal salt solution. This is so dilute that a considerable quantity of it can be used without danger of cocaine intoxication. I use an ordinary hypodermic needle or one of the longer fine needles, such as go with every aspirating outfit, and employ an exploratory or aspirating syringe which is made entirely of metal, and thus can be thoroughly sterilized. The method of employing this solution is to inject the entire line of incision, beginning at the upper or lower end, and holding the needle almost parallel with the skin, aiming to inject only into the epidermis proper. If this is strictly adhered to, the effect of the first injection will be to raise a swelling which looks somewhat like the wheal of an urticaria, or of a mosquito bite. The second injection is given directly into this wheal, and the method continued until the entire line of incision has been injected. It is marvelous how many operations one can undertake, such as amputations and excisions of small tumors, if situated superficially, like wens and lipomata, with this method. Some surgeons are in the habit of adding two to three drops of 1-to-1000 adrenalin solution to the three-ounce mixture, the advantage being that it checks the hemorrhage and prolongs the action of the cocaine. By using this same solution upon the deeper tisssues after a second incision has been made, it is possible to perform herniotomies and even laparotomies by the use of this method.

The method of spinal anesthesia which I use is that now employed by Morton, of San Francisco, which consists of using a long needle made of platinum and iridium, which is of great strength and at the same time is somewhat flexible. With this needle the spinal fluid is allowed to escape into the barrel of a Leur glass syringe, where it is mixed with three-tenths of a grain of cocaine, which has been sterilized by dry heat. The mixture of cocaine and dural fluid is then injected back into the spinal canal by simply inserting the piston of the syringe. The favorite point of puncture in the spinal canal is just beneath the spinous process of the fourth lumbar vertebra in the median line. This is found by drawing a line across the middle of the back, which on each side passes through the uppermost border of the crest of the ilium. The patient is instructed to bend forward, and the needle is plunged in. The clear fluid which escapes under more or less pressure is the dural fluid, which we shall mix with the cocaine in the syringe. It requires about five minutes for complete anesthesia to result, following which one can perform almost any of the major operations, such as prostatectomy, herniotomy, amputation, etc.

Professor Czerny has given a sum of $2500 to the University of Heidelberg for the foundation of a prize in memory of his father-in-law, the distinguished physician, Adolf Kussmaul. The income of the money will be awarded every third year on Kussmaul's birthday, February 22, for the best therapeutic work done during the previous three years and published in a German book or periodical.

Dr. George F. Butler has severed his connection with the Alma Springs Sanitarium, at Alma, Michigan, where for nearly five years he has been medical superintendent, and has returned to Chicago, where he will henceforth limit his practice strictly to internal medicine. He will fill the chairs of professor of therapeutics in the College of Physicians and Surgeons, and professor of medicine in the Dearborn Medical College; he has also been appointed as one of the attending physicians in the Samaritan Hospital. Dr. Butler will continue to edit and publish his magazine, "How to Live," and it is understood that he has under way another medical work for a Philadelphia medical book publisher.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

CLASSIFICATION OF BACTERIA.

Recently much important bacteriologic work has been done on the colon-typhoid group of bacteria. For years the difficulties in the way of positively distinguishing between the typhoid bacillus and the bacillus coli have been great. Test after test has been brought out, and claims have been made that each in turn would positively distinguish the one from the other. Cultural properties, reactions in special media, even the agglutination test, failed to be absolutely diagnostic, until it seemed as if these organisms were by no means constant in the characteristics.

The work of C. Sternberg, Adami, Klotz, and others throws new light on the problem. While the knowledge of the bacteria described by these observers apparently complicates matters, in reality it simplifies them. This will eventually lead to a readjustment of our whole system of classification of bacteria, and will be put on a more rational basis than that of mere form—*i.e.,* bacilli, cocci, and spirilla.

Through the investigations of these men we are beginning to see that instead of dealing with two bacteria of variable characteristics, we have a whole family of closely related organisms. At one end of this family stands the typhoid bacillus, and at the other the colon bacillus. These are physiologically present in the intestinal tract, and possibly necessary to the well-being of the body, but capable, under certain conditions, of assuming pathologic virulence. Intermediate between these, and having some of the characteristics of each, stand the paratyphoids and paracolons, and a number of other bacteria. In other words, in place of an artificial classification one is to be substituted based on community of descent.

This same grouping is being worked out in other classes of bacteria. We have several pyogenic cocci differing only in pigment production. We find a number of closely related bacteria grouped around the typical Klebs-Loeffler bacillus of diphtheria. A number of bacilli closely related to the tubercle bacillus, yet differing from it, are also being found widely distributed in nature.

While our knowledge is still incomplete, we seem to be working toward a classification of bacteria based on biological relationship rather than one based on mere similarity in form. This, while the only one possible in the early days of bacteriology, is of necessity unsatisfactory and unscientific.

THE VALUE OF THE LEUCOCYTE COUNT.

Of the modern resources of the diagnostician much has been said for and against the leucocyte count as an aid to the diagnosis of purulent conditions, particularly appendicitis. Some discredit has been thrown on this method because a majority of observers have been giving their attention entirely to numbers, and have tried to determine how many leucocytes must be present to indicate pus formation. This is wasted effort. A leucocytosis depends on many factors besides the presence of the pus-producing microörganism. We hear much of the "ascending count" as a diagnostic sign, but occasionally we do have a hint of the value of the differential count. Willson over a year ago brought out clearly the fact that a leucocytosis consists not only in an absolute increase of the leucocytes, but in a relative increase of the polymorphonuclear forms. Under certain conditions the polymorphonuclear may be largely in excess, while the total number of leucocytes may not exceed the normal. This points to pus formation just as surely as does an increase in number, and is of graver prognostic import, for the resistance of the body can be gauged by the absolute increase in number, while the severity of the infective process can be measured by the increase in the proportion of the polymorphonuclear forms.

So long as we depend on mere numbers, so long as the differential count is neglected, our results will be unreliable and often at variance with clinical signs. It is not alone a question of how many but of what kind of leucocytes we have. Had half the energy expended in counting numbers been utilized in

determining the proportions of the various kinds of leucocytes, the examination of the blood as an aid to the surgeon in diagnosing pus would have rested on a much firmer basis, and the proceeding would have escaped much of the criticism now directed against it.

EDITORIAL NOTES.

The Causation of Sex.

The forecasting of the sex of children about to be brought into the world has always been a problem which has never been satisfactorily settled. A recent issue of the *Bulletin of the Carnegie Institute* contains the conclusions of Prof. Simon Newcourt, who recently analyzed mathematically by the theorem of probabilities a number of statistics. The following are the conclusions reached by him: (1) There is a preponderance of male over female births in all branches of the Semitic race, but this is non-existent or quite small in the negro race. (2) There are no important differences as regards capacity for producing children of one sex rather than the other which are permanent in the individual. All fathers and all mothers are equally likely to have children of either sex, except for slight variations that may be due to age. In view of the great variety of conditions on which this conclusion is based, it seems in the highest degree unlikely that there is any way by which a parent can affect the sex of his or her offspring. (3) The most natural inference from all the statistical data is that the functions of the father in generation are entirely asexual, the sex being determined wholly by the mother. If so, it cannot be said that one father is more likely than another to have children of either sex. (4) The sex is not absolutely determined at any one moment or by any one act, but is the product of a series of accidental causes, some acting in one direction and some in another, until a preponderance in one direction finally determines it. The statistics of twins and triplets seem to show very strongly that these accidents occur after conception, but throw no light upon the question of the time which they occupy. (5) The first-born child of any mother is more likely to be a male, in the proportion of about 8 to 7. There is probably a smaller preponderance in the case of the second child. These conclu-

sions are not intended by their formulator to be more than suggestive, and their lesson appears to be that in the present state of our knowledge the subject is one on which more research might be profitably spent.

A New Safety Helmet for Firemen.

An English contemporary of a recent date contains a description of an apparatus devised by a Parisian physician for the use of firemen, rescue parties in mines, and others for whom it may be necessary to move about with safety in an irrespirable air. The apparatus consists of a helmet something like that of a diving dress, but made of aluminum instead of copper. This helmet is entirely cut off from the outside air by means of a pneumatic collar. Underneath the chin-piece of the helmet is a sack, called the respiratory sack, which, to commence with, is full of air. The oxygen of this air is constantly renewed from a small cylinder of that gas which is carried at the back of the person using it. The expired air passes through some cooling coils, and is purified of its carbon dioxide by means of caustic potash, while the nitrogen is simply used over again. Enough oxygen can easily be carried to enable a man to stay for at least thirty minutes in an irrespirable atmosphere, and in fact, on July 2, a fireman remained for thirty-eight minutes in a closed cellar filled with the smoke from damp burning straw and came out none the worse. This device properly used will doubtless be the means of saving many valuable lives.

A Humanitarian Engine of War.

An officer of the Austrian army has invented a shell which when it explodes does not, as is the usual way, distribute deadly pieces of lead and steel to those in its vicinity, but liberates vast quantities of a gas which has the effect of stupefying all who are near it. One shell is said to contain enough gas to place 2000 men *hors de combat*. As the gas has only a temporary effect the adoption of this shell would make war much less horrible than it is at the present.

ITEMS AND NOTES.

A VIRULENT outbreak of smallpox is reported from North Adams, Mass.

THE next International Otological Congress will be held at Budapest in 1908.

IN July two hundred and thirty-six ambulances were shipped from Indianapolis for Japan.

THE Italian Congress on Children's Diseases will hold its fifth meeting at Rome in October.

TWO HUNDRED AND THIRTY-THREE cases of typhoid fever are reported from the District of Columbia.

DR. P. A. LOVERING, surgeon U. S. N., has been ordered to the chair of tropical diseases at the Naval Medical School in Washington.

THE foundation stone of the large hospital of the English Blue Nuns on the Coelian Hill in Rome will be laid by Cardinal Respighi in October.

A LEAGUE against dust has been formed in Paris. Its object is to impress on the public mind the dangers caused by the diffusion of microbes in dust.

BARON VON EISELBERG, professor of surgery in the University of Vienna, has declined an invitation to succeed Professor Konig in the corresponding chair at Berlin.

THE Paris Municipal Council has voted a grant of $600 to Professor Grancher in furtherance of his researches as to the means of preventing tuberculosis in schools.

THE first International Congress of Education and Home Protection of Infants will be held in connection with the Universal Exposition at Liege in September, 1905.

DR. KENN W. MILLICAN, who since April, 1898, has held the position of associate editor of the *New York Medical Journal,* has resigned to take charge of the *St. Louis Medical Review.*

Major J. F. Case, city engineer of Manila, has laid before the Secretary of War and Chief of the Bureau of Insular Affairs at Washington plans for the proposed water-supply and sewerage system of Manila.

Professor von Esmarch, of Kiel, who was recently the victim of an accident which disabled him for a time, has now recovered and is able to take his customary walks in the environs of the town. The venerable professor is in his 81st year.

The Pope has conferred on Drs. Amiei, Angeli, and Salvatori, of Rome, the Cross of St. Gregory the Great, in recognition of the zealous services rendered by them during twenty years as physicians to the dispensary of the Apostolic Charity Department.

It is stated that Drs. Ott and Hirsch, the two physicians in attendance on the Czarina during her recent confinement, received a special fee of 100,000 roubles in honor of the birth of an heir to the Russian throne. The ordinary fee is 25,000 roubles.

Professor Mosso, of Turin, and Signor Pagliani, the president of the Italian Alpine Club, have selected a site on Monte Rosa at a height of 3000 meters for the erection of an Alpine research station. It is hoped that it will be in working order in 1906.

A branch laboratory is about to be established in New York by the Bureau of Chemistry of the National Department of Agriculture, and the work of examining imported foods and detecting adulterations and imperfections will be conducted on a large scale.

The Italian Minister of the Interior has sent out a circular inviting medical practitioners throughout the country to send detailed information as to the hygienic condition and therapeutic importance of mineral wells and bathing establishments in all parts of Italy.

The Italian Minister of the Interior has sent a circular to all prefects of the kingdom sanctioning the gratuitous supply of quinine by the communes to poor inhabitants of malarious districts. The drug is to be distributed for therapeutic as well as for prophylactic use.

Maj. Oliver B. Simmons, in charge of the South Mountain Camp Sanatorium on the Pennsylvania State Forestry Reservation at Mont Alto, Franklin county, has reported, says an exchange, that since the sanatorium for consumptives was opened in June, 1903, about sixty-five patients have been received, and at present there are thirty there, most of whom will spend the winter in the open. Of those who were received for treatment 50 per cent have returned to their homes, apparently cured.

Recently published statistics show that in Austria heart disease is accountable for by far the largest proportion of deaths among medical practitioners, amounting to 44 per cent of the whole number. Disease of the nervous system is responsible for 20 per cent, and an almost equal proportion is attributed to morphinomania. Tuberculosis claims only 7 per cent, a fact that seems to show that medical practitioners practice their own precepts as to the prevention of disease in this particular field of pathology more strictly than in some others.

The Seventeenth Congress of the Association Francaise de Chirurgie will be held in Paris on October 17 and following days, under the presidency of Prof. S. Pozzi. The following questions are proposed for discussion: (1) The surgical treatment of cirrhosis of the liver, to be introduced by M. Monprofit, of Angers; (2) the semeiological value of examination of the blood in surgery, to be introduced by M. Tuffier; (3) traumatic detachment of the epiphyses, to be introduced by M. Kirmisson. Communications relative to the Congress should be addressed to the general secretary, Dr. Walther, 21 Boulevard Haussmann, Paris.

Janus contains an article by Dr. Alex Johannessen on infant mortality in Norway, in which it is shown that this country has the lowest of any civilized land, the proportion for the whole country being 95 per 1000. In the towns it is higher (130) than in the country (86), and it is higher for boys (106) than for girls (89). As is the case everywhere, it is higher for illegitimate children (150) than for legitimate (93). It rises in the extreme north beyond the polar circle to 150. A peculiarity of the Norwegian infant mortality, and the chief cause of its low rate, is the absence of the usual summer rise due to infantile diarrhea. From investigation of the records of several parishes

during the past two centuries, Dr. Johannessen finds a great improvement in the nineteenth as compared with the eighteenth century, the respective mortalities being 101 and 105; the bad record of the eighteenth century being mainly due to deaths during the month of January.

By an imperial ukase recently promulgated in St. Petersburg, women who wish to practice medicine are placed on exactly the same footing as men. The way is freely open to them to obtain not only a license to practice but the degree of Doctor of Medicine. Women who have obtained the title of doctor at a foreign university are admissible at once to the Russian state examination. For admission to the Institute for Education of Medical Women, the possession of a leaving certificate of a recognized girls' school and the passing of a "not too severe" entrance examination are required. The candidate must not, however, be a Jewess, and she must not be less than nineteen nor more than twenty-eight years of age. A Jewess can be admitted only if the number of co-religionists in the Institute does not exceed three per cent of the whole number of students. Applicants for admission to the Institute who have neither home nor relatives in St. Petersburg will be compelled to live in a hospital specially established for the purpose.

An exchange states that the Paymaster-General's Department of the regular army reports that since the abolishment of the army post exchange, or the canteen, as it is familiarly called, the savings of the soldiers deposited with the paymaster's office have shrunk nearly $2,000,000. This is not of course an absolute demonstration that the soldiers have lost their thrifty habits; but the army officers and the persons who are intimately connected with the army are of the opinion that the money which was formerly stored away now goes in wild debauches to the dens, joints, and vile resorts of every description which have grown up on the outskirts of all army barracks and camps in large numbers since the passage of the law which forbade the sale of beer and light wines in the camps under strict regulation and under the supervision of the army officers. The strongest kind of support for the canteen has come from total abstainers, physicians, and chaplains, who have no objects to serve but to make the discipline good, the soldier efficient, and the army cleanly and decent.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Vesicovaginal Fistulæ Following Hysterectomy for Carcinoma Cervicis Uteri.

John A. Sampson (*Johns Hopkins Hospital Bulletin,* September, 1904) says the anatomical relation between the cervix and bladder is such that the anterior extension of carcinoma cervicis uteri soon invades the bladder wall, as shown by, first, vesicovaginal fistulæ, which may occur in the advanced cases and result from the necrosis of the growth which has invaded the bladder wall; secondly, accidental injuries to the bladder occurring during hysterectomy for cancer of the uterus; thirdly, cystitis following these operations, demonstrating that the operation must be considered an accessory etiological factor in its origin.

The surgeon who attempts to separate a carcinomatous cervix which has become adherent to the bladder usually (1) leaves cancer tissue behind, and the disease returns; (2) so injures the bladder-wall that a vesicovaginal fistula may form, which if recognized and repaired at the time is apt to fail to unite, because the fistula is situated in a portion of the bladder wall whose outer coats have been torn and whose blood-supply has been injured by the operation; (3) if he does not produce a fistula the injured portion of the bladder may be unable to resist infection, and a severe cystitis may result.

On account of the above, if the cervix is adherent to the bladder the portion of the bladder wall adherent should be excised, in order (1) that a wider excision of the primary growth may be obtained; (2) that the injured bladder wall may be repaired, for one may then unite healthy bladder tissue together and so feel assured of a successful repair of the injury; (3) that the bladder may be better able to resist infection, for the portion of the bladder weakened by the operation has been removed.

Postoperative vesicovaginal fistula may occur (1) from undiscovered injuries to the bladder or the failure of the repair of injuries recognized at the time of the operation; (2) from the

intentional formation of such fistulæ at the time of the operation in order to relieve intravesical tension and give the bladder a rest, and also the formation of fistulæ after the operation in order to minimize the dangers of postoperative cystitis.

Frequently postoperative vesicovaginal fistulæ close spontaneously. This may take place in a short time, in a few days or weeks, or may require as long a time as six months or a year; on the other hand some will never close.

Apparently the early operative closure of such fistulæ, unless in healthy bladder tissue, is difficult, and operative measures should not be undertaken until the tissue has had a chance to regain its natural blood-supply. One should probably wait at least two months before undertaking such steps.

The radical operations for cancer of the uterus diminish the sensibility of the vagina and bladder to pain, so that postoperative vesicovaginal fistulæ may be closed without the use of a general or local anesthetic.

The following principles should be employed in the closure of these and all vasicovaginal fistulæ:

1. Approximation without tension.
2. A broad area of denudation exposing healthy bladder.
3. Accurate approximation with inversion of the bladder mucosa.
4. Tying the ligatures so as not to strangulate the tissue.

Very fine silver wire fastened by means of perforated shot forms a very satisfactory suture material, and if a small piece of rubber tubing is placed between the shot and the vaginal mucosa a most efficient "splinting" suture is formed, which through the elasticity of the rubber tubing maintains accurate approximation without strangulation.

Old Unreduced Dislocations.

De Forest Willard (*Journal of the American Medical Association,* Sept. 24, 1904) says that early immediate diagnosis is the most important element in preventing the existence of the old unreduced dislocation. With ether, the *x*-ray, and anatomic and surgical knowledge, a recent displacement ought always to be discovered by the surgeon. Immediate reduction by manipulation or open operation should follow.

An old, unrecognized dislocation should be carefully examined under the *x*-ray and ether to discover the extent of adhe-

sions and the possibilities of effecting reduction without extreme measures. The manipulations to be practiced are practically the same as those employed in recent luxations, but greater caution is necessary. Failing in these, continuous extension in bed should be practiced for a week; the second attempt, without the application of extreme force, should then be made, the permission of the patient having been previously obtained to permit of open operation, if deemed necessary.

Open section should include the division of all muscular, tendinous, capsular and bony obstacles to reduction. When the socket is filled up with dense fibrous tissue, such tissue should be excavated and the head of the bone placed *in situ*.

Partial or complete excision of the head and of fragments in case of fracture will frequently be necessitated.

In cases that have existed more than a year, or where the original injury has been extreme, operation should be avoided unless pressure on nerves or blood vessels is seriously impairing the usefulness of the limb or giving pain, but resection should be practiced in bad late cases, with pain and serious nerve symptoms.

Sepsis is frequent on account of the severity and length of the operation, and especially by reason of the non-resistive ability of the tissues due to the original injury and to repeated traumatisms from manipulative efforts.

Pain, disability, age, and occupation are the most important conditions in arriving at a decision concerning operation. When a limb is useful in its new position, gives no pain or difficulty, it should be let alone.

In the after-treatment, muscular gymnastics, electricity, voluntary and involuntary muscular movements, and massage are very important measures and should be persistently employed. These manipulations require both patience and pluck on the part of the patient.

Intestinal Obstruction Following Appendicitis Operations.

C. A. McWilliams (*Medical News*, Sept. 3, 1904) reports and classifies eighty-six cases of obstruction after operation. He says the rarity of intestinal obstruction is noteworthy. Obstruction may follow an attack of appendicitis which has not undergone operation. In this series of eighty-six cases 10 per cent

were such. Obstruction may follow the "interval" operation; 9 per cent belong to this category. Obstruction is most apt to follow appendicitis with abscess formation. Eighty-one per cent were of this class. Hence the necessity for early operation. Mechanical obstruction may come on within a short time after the appendicitis operation. Obstruction may occur years after the original attack or operation, when it may come on suddenly in perfect health, or preceded by a period with symptoms denoting "partial" occlusion. There may be several attacks of true mechanical obstruction. Several attacks occurred in 8 per cent of the fifty-seven patients who survived the first operation for obstruction; 66.3 per cent recovered after operations for obstruction; 33.7 per cent died. The small intestine was occluded in all of the fifty cases in which it was noted. The cause of the obstruction was given in fifty-three cases as follows: Constrictions by bands in twenty-eight patients; volvuli in ten; kinkings or angulations in eleven; and internal hernias in four cases. Gangrenous bowel was encountered in five cases, necessitating resection, resulting in three recoveries and two deaths.

We may expect a much smaller death-rate in the future, due to the earlier recognition of the symptoms and their more prompt relief by operation. Prophylaxis consists in operating upon appendicitis before the formation of pus, the use of as little drainage as possible, and the least possible amount of handling of the intestines at the time of operation. Vigorous abdominal massage with elevation of the hips may avert an impending obstruction. Frequent changes in the patient's position are likewise recommended. Since the exciting cause is in many cases an attack of acute indigestion, patients should have their diet carefully regulated for from four to six weeks after an attack of appendicitis or after an operation.

The Fate of Antiseptic Mops Accidentally Left in the Abdominal Cavity.

D. Reise (*British Medical Journal*, Aug. 13, 1904) reports two cases in which gauze mops had been accidentally retained in the abdominal cavity after laparotomy. In one of these cases the foreign body, which had made its way into the intestinal canal and there caused obstruction, was successfully removed by enterotomy. In the second instance, in the course of a laparotomy for rupture in tubal gestation performed four years after

ovariotomy, an aseptic mop was found enclosed in a cyst that had developed in the mesosigmoid. According to our present knowledge the retention of a soft foreign body in the abdominal cavity after laparotomy may be followed by one or other of these four results: peritonitis, penetration into the intestinal canal, discharge of the foreign body through an abscess formed in the abdominal wall or in the pouch of Douglas, and inclusion in a cyst. The author states that penetration into the intestinal canal occurs quite as frequently as external elimination by an abscess. The passage of the foreign body into the intestinal canal may occur without suppuration, and its discharge by the anus need not give rise to any alarming symptoms. A foreign body such as an antiseptic compress or mop may, the author states, be retained within the peritoneal cavity for many years. In cases of intestinal obstruction following the passage of such body into the intestinal canal, it is held to be better to have recourse at once to laparotomy than to attempt to dislodge the cause of the obstruction by purgatives. Several surgeons have had experience of the accidental retention of antiseptic appliances. In Neugebauer's practice a foreign body of this kind was left in the abdominal cavity in 10 of 1000 laparotomies, and Riese has had a similar experience in two out of 900 laparotomies.

Aseptic Catheterization of the Urinary Passages.

M. Kratoszyner and W. P. Weelard (*Medical News,* Aug. 27, 1904) summarize their methods of sterilization as follows:

1. Soft-rubber catheters are rendered sterile by being boiled five minutes, preferably in sodium chloride solution, care being taken that the solution fills the lumen of the catheter. As a matter of precaution the catheter should be washed with soap spirits and running water after use.

2. Hard-rubber and silk and cotton woven catheters should be boiled five minutes in a saturated solution of sulphate of ammonia. Each instrument should be wrapped separately in gauze or a towel, or, if several catheters are to be sterilized, in such a manner that their surfaces shall not come in contact with the sides of the vessels or other catheters.

3. Ureter catheters can be folded and wrapped in a towel so that their surfaces are kept apart and boiled for five minutes in a saturated solution of ammonium sulphate.

4. Cystoscopes should be sterilized by first washing them in soap spirits and water, then vigorously rubbing them for two minutes with two different pieces of gauze or cotton wet with soap spirits, and then with alcohol for one minute. The channel of the catheter can be cleansed by means of a brush, first brushing with soap spirits and then with alcohol. Instruments can be kept aseptic if they are snugly wrapped in a piece of gauze or towel wet with soap spirits.

Immediate Repair of Lacerations of the Perineum, with Special Reference to Placing the Sutures Before the Lacerations Occur.

Lapthorn Smith (*New York Medical Journal,* Sept. 3, 1904) speaks of the importance of closing even small tears of the perineum, so as not to leave raw surfaces for septic absorption. It is important to close large tears so as to retain the function of the pelvic muscles. The best time to put in these stitches is just before the head presses on the perineum, while the patient is anesthetized, and before the parts have lost their relative positions. With the left finger in the vagina and the thumb in the rectum a large perineum needle on a handle is passed just under the vagina threaded with silkworm-gut; the two or three stitches hang loosely in a Péan forceps until the placenta has been extracted, when they are quickly tied, bringing the parts exactly together as they were before the tear.

Alcohol Dressings.

Pfuhl (*Zeit. f. Hygiene,* Bd. 47) finds that the alcohol bandage is the most efficient, simplest, and cheapest dressing in inflammatory and purulent diseases of the superficial and deep fascias. It is almost a specific in venereal bubo, also in inflammation of the joints; even the organs of the great body cavities are accessible to it. Alcohol in concentration of 40 to 50 per cent possesses the strongest bactericidal power, the vapors from it being capable of great penetration into the tissues. Pathogenic bacteria in superficial tissues are destroyed by alcohol bandages at 37° C., though spores are unaffected. In the living animal alcohol vapors are absorbed by the skin and eliminated by the internal organs.

New Method of Diagnosis of Fractures.

Plesch (*Deutsche Zeit. f. Chirg.,* Bd. 69) finds that in cases where crepitation, dislocation, and abnormal movement are absent the use of auscultation may be advantageously pressed into the service of the diagnostician. If a partially fractured bone is percussed the sound waves are changed at the seat of injury and a metallic note is detected there. If the bone is broken and in apposition a crepitation is heard, if it is not in apposition no sound is discerned. As the tone is not interrupted by the joints he recommends in suspected patellar, condyle, and trochanteric fractures percussion and auscultation on the pelvis.

Cause of Pain in Intestinal Disease and Gall and Kidney Stone.

Wilmes (*Münchener medicinische Wochenschrift,* 31) from his surgical experience finds that the muscular as well as the serous and mucous coat of the intestine is insensitive to pain, though traction on the mesentery is very painful. The pain in intestinal colic is apparently due to traction on the mesentery; the same applies to the large intestine. The pain in acute intestinal inflammation is due to lymphadenitis and lymphangitis of the mesentery. Pain in gall and kidney colics the author attributes to the irritation of the surrounding connective tissue, which is rich in nerves.

MEDICINE.

An Analysis of One Hundred and Eighteen Cases of Lobar Pneumonia in Infancy.

John L. Morse (*Archives of Pediatrics,* September, 1904) says that lobar pneumonia is most common and occurs relatively more frequently in comparison with bronchopneumonia in infancy than is generally supposed. The analysis of these cases shows the following points: The onset was less stormy than is generally thought. It was often ushered in by vomiting, but rarely by a convulsion. It usually began with fever and cough, which were often accompanied by apathy or drowsiness. Movement of the alæ nasi was not a constant symptom. A whole lobe was more often involved than a part. The left lower lobe

was the one most commonly involved. The right upper lobe and right lower lobe came next in frequency. The portion of the lungs involved was relatively the same in the fatal cases as in those which recovered. As a rule, the area involved was larger in the fatal cases. The average duration of the fever in the cases that recovered was about eight days, being nearly the same in both years. The course was more often short in the first year, however, than in the second. The average duration of the fever in the uncomplicated fatal cases was 12.8 days—that is, the duration of the fever was longer in the fatal cases than in those that recovered. The highest temperature was usually between 103° F. and 106° F., the number of cases being nearly the same for each degree. The temperature fell by crisis in 68.8 per cent. Crises were less common in the first than in the second year. Collapse during the crisis was very unusual. Pseudocrises were not very common, but irregularities and remissions in the temperature were not at all unusual. The mortality was lowest when the temperature did not rise above 103° F., and highest in those cases in which it went over 106° F. The degree of fever between 103° F. and 106° F. had no apparent effect on the mortality. A high temperature was no more fatal in the second year than in the first year. The usual pulse-rate was between 150 and 170. No case died in which the pulse was not over 140. The rate of the pulse, when it was above 140, had little or no apparent influence on the mortality. The usual respiratory rate was between 55 and 80. No case died in which the respiration was below 55. The rate of the respiration when above 55 had no apparent effect on the mortality. The mortality, excluding the cases in which death was due to empyema, was nearly 23 per cent. It was almost twice as great in the first as in the second year, being 32 per cent and 18 per cent respectively. Otitis media was the most common complication, occurring in 18 per cent. Empyema was the next most frequent, occurring in about 8 per cent.

Albuminuria in the Apparently Healthy.

S. West (*Nashville Journal of Medicine and Surgery*, July, 1904) believes that under ordinary conditions physiological albuminuria does not occur, and when it does it is a transudation, not a secretion. The greatest importance is to be attached to the state of nutrition of the walls of the capillaries, and also

to the presence or absence of high arterial tension. Cases under consideration may be divided into three groups: (1) postrenal, or accidental, due to the contamination of the urine from the genito-urinary tract; (2) renal, (*a*) with obvious cause, as kidney disease, (*b*) without obvious cause; (3) prerenal, (*a*) with obvious cause, as in fevers or heart disease, (*b*) with no obvious cause. With regard to the postrenal class of cases a tiny calculus in the kidney may lead to a transient albuminuria or hematuria, the condition completely clearing up with the passage of the stone. Temporary albuminuria may also be due to the passage of oxalic acid gravel. It is also said that the strongly acid urine of acute gout may likewise give rise to the same condition. Many different names have been given to this form of albuminuria. Its importance and significance vary with age. In schoolchildren the practical question is whether the school life should be interfered with. The writer believes that each case should be judged upon its own merits, and that continuance at school under medical supervision is the best course to pursue. The gravity of the condition increases almost *pari passu* with every year. The chief point in the whole question lies in the difficulty of excluding latent disease of the kidneys, especially granular kidney.

In regard to life insurance, it is advisable to reject all cases of albuminuria above the age of forty, to load heavily with those between thirty-five and forty, to add considerably between the ages of twenty-five and thirty, and to postpone and watch those cases occurring between eighteen and twenty-five. If arterial thickening is present at the same time one should reject at all ages. Albuminuria is never physiological but always pathological, though not necessarily renal.

The Protective Action of Pus.

I. Binagh (*British Medical Journal,* Aug. 13, 1904) has carried out a series of experiments *in vitro* and *in vivo* tending to show the bactericidal action of pus upon certain virulent organisms. The method was to induce the formation of an abscess in rabbits and then inject cultures of various bacilli (charbon, tetanus, malignant edema, staphylococcus aureus) into the abscess cavity, and watch the effects. Out of the fifteen rabbits operated upon in this manner only two died (from char-

bon), and in them the abscess was small and hard and the injection got into the surrounding healthy tissue. The control animals all died. Further experiments showed that pus does not confer a true immunity but only a relative and temporary immunity, for it was quite possible to reinfect the same animal. The protective action of the pus was not owing to hindered absorption of virulent toxin or failure of penetration of the germs into the circulation, for in the reinfection the same obstacles were present as before. Possibly reinfection occurred because of the saturation of the preëxistent alexins and failure to produce flesh, owing to impeded leucocytosis. The abscesses were produced by inoculation of pure cultures of staphylococcus aureus and B. coli, or by starch powder suspended in sterilized water.

Non-diphtheritic Membranous Anginas.

L. B. Wilson (*St. Paul Medical Journal,* September, 1904) says the non-diphtheritic pseudomembranous anginas may be divided into several groups, each of which is a more or less distinct clinical entity, associated with a species of microörganism either alone or in great preponderance.

These non-diphtheritic anginas are important not only because of the necessity of differentiating them from diphtheria, but also because (*a*) they are frequently transmissible, and (*b*) their treatment should vary according to the microörganism present.

Our present imperfect knowledge of these anginas should be added to by carefully made and carefully recorded clinical observations in connection with full bacteriological investigations.

In order to determine as nearly as possible the etiological factor in anginas, direct cover-slip or direct slide preparations from the membrane (as well as cultures on the ordinary diphtheria media) should be made by the physician on his first visit. These should be dried without heating, then fixed by heat, and either stained by the physician or sent to a laboratory with the culture for further examination. This technique should be supplemented wherever possible by cultures on media more suited to the development of non-diphtheria-like microörganisms than is Loeffler's blood serum, such, for instance, as broth, agar, etc., both neutral and acid.

Transient Traumatic Diabetes.

D. Kausch (*British Medical Journal,* Sept. 10, 1904) in a paper read at a recent meeting of the Berlin Surgical Society, stated that in eleven cases of recent injury—nine of fracture and two of contusion—he had noted the occurrence of glycosuria which invariably presented some interesting points. Sugar was found in minute quantities—the maximum 1 per cent, the average ½ per cent—almost immediately after the injury and in the first specimens of urine that were examined. It disappeared in the course of a week, usually about the third day, and in not one of these instances was its presence associated with any diabetic symptoms. The most important point in this series of observations was the fact that with one exception the patients remained subsequently in a normal condition with regard to metamorphosis of glycogen. In these observations the author points out that physiologically normal subjects may after an injury show signs of spontaneous and transient diabetes—a fact, it is asserted, that had been previously ascertained. The association of this transient diabetes with traumatism is regarded as the result of physical disturbance and not of a cerebral lesion or of a spinal concussion.

The Effect of Diuresis on Albuminuria.

At a recent meeting of the Paris Society of Biology, M. Javal (*Lancet,* Aug. 13, 1904) states that he had observed that in the case of nephritic patients, the hydration of whose tissues varied very little, the ingestion of an excess of water simply diluted the albumin. Therefore if the amount of albumin was estimated as so much per liter of urine passed it appeared less than before, but in reality the total amount remained the same. In cases of polyuria, if the increase in the volume of urine passed was due to dehydration of the organism, the effect on the albuminuria was by no means the same as when the polyuria was due to the ingestion of a large quantity of water. Therefore in studying the amount of albumin passed by a patient suffering from nephritis it is important to take into account the variations in the total quantity of urine passed and the causes for these variations, for it will easily be seen that the total amount of albumin passed during twenty-four hours gives figures much more trustworthy than a mere estimation expressed in terms of so much per liter of urine passed.

Pruritus Ani.

A. B. Cooke (*New York Medical Journal,* Sept. 3, 1904) says that if asked to summarize what he considers to be the essential features in the management of pruritus ani, he would say:

1. Cleanliness.
2. Protection of the parts from friction and irritation of all kinds.
3. Local applications according to the indications of the individual case, for the relief of the itching and the restoration of the altered skin to normal.
4. In exceptional cases the destruction of the diseased skin, preferably with the chemical caustics.

Etiological Importance of Pollen in Hay-fever.

Liefmann (*Zeitschrift für Infectionskrank.,* Bd. 47) examined the air to determine the prevalence of pollen, and also to ascertain whether the amount was sufficient to produce the symptoms of hay-fever. The amount was determined by gathering the pollen on glass plates and then counting the individual grains, and also by determining the number in a given amount of air. These experiments were influenced by climatic changes and environment. The author finds that the amount of pollen in the air is sufficient to cause the symptoms of hay-fever, also that the occurrence of the disease is simultaneous with the appearance of the pollen in the air.

Influenza Bacilli Found in Tonsils and Larynx.

Auerbach (*Zeitschrift für Infectionskrank.,* Bd. 47) examined 780 cases of suspected diphtheria and scarlet fever anginas and found the influenza bacillus in twelve cases of diphtheria, three cases of scarlet fever, six times in diphtheria with scarlet fever, seven times in diphtheria and measles, and ten times in tonsillitis. It is important to know that these bacteria have been found endemically. The author is of the opinion that all bacteria of the influenza group, such as the trachoma bacillus, bac. catarrhalis, bac. pertussis, etc., should be classed as influenza bacilli because as yet we do not possess any absolute method of differentiation.

THERAPEUTICS.

Prevention of Puerperal Infection in Private Practice.

J. W. Byers (*Lancet*, Aug. 13, 1904) in discussing this subject says the careful general examination of pregnant women is important, so that at an early date we may detect a flaw in any of the organs (heart, kidneys, lungs), the knowledge of which may lead to the adoption of a judicious prophylactic treatment and so maintain the patient's strength and health and resisting power.

A few weeks before the expected date of the confinement—especially in a primipara—a careful abdominal examination should be made, so that we may learn the presentation and position of the fetus, the amount of liquor amnii, and the presence or not of an abdominal tumor; and if there is the least suspicion of deformity the pelvic cavity should be measured.

The immediate repair of any lacerations of the pelvic floor following delivery is a most important point in the prevention of puerperal infection.

Such, in brief, are the suggestions which, if fully and fairly carried out, would soon make a marked change in obstetric practice and bring the results of private midwifery work more into line with the brilliant records now achieved in properly conducted maternities.

The Value of the Addition of Citrate of Soda to Cow's Milk in Infant Feeding.

F. J. Poynton (*Lancet*, Aug. 13, 1904) advocates the addition of citrate of soda to cow's milk in infant feeding. The advantages, the author says, are: (1) It renders the curd of cow's milk more easily digestible. (2) It is cheap. (3) It is convenient to handle, easy to control, and progressive in principle. (4) It allows the milk to be given in a more concentrated form, and thus avoids to some extent the danger of underfeeding. (5) There is no danger of scurvy. (6) Given as a medicine it gains the confidence of the mother.

The indications are: (1) As a routine for weaning a healthy infant on to cow's milk; and (2) for correcting milk dyspepsia. The drawback is a tendency to constipation, which is, however, easily controlled.

The limitations are: (1) In rare cases of complete intoler-

ance of cow's milk. (2) In severe cases of gastroenteritis from impure milk. (3) In organic disease, such as congenital hypertrophic stenosis. (4) In every intractable case which has been subjected to all sorts of different methods beforehand.

A routine method for the artificial feeding of the poor child is: first try citrate of soda in the milk, provided the milk is sound.

The Action of Saline Purgatives.

A. MacCallum (*American Journal of Physiology,* January, 1904) reports that he has found peristalsis equally manifested by the direct application of the salt to the surface of the intestine; it is also inhibited by the subsequent application of calcium or magnesium chloride, and in a less degree by strontium chloride. A number of measurements were made of the fluid in the small intestine before and after the administration intravenously or locally of these salts, and the secretion of fluid into the intestine was found to be produced or inhibited by the same solutions as call forth motion or inhibition respectively of the musculature of the gut.

Internal Antisepsis and Disinfection of the Gall Passages.

Kuhn (*Münch. med. Wochenschrift,* No. 33) employed in his experiments, as an indicator of certain medicaments, the amount of gas resulting from fermentation of the bile derived from biliary fistulas. His experiments demonstrated that sodium salicylate was the most efficient preparation to reduce inflammatory processes; with menthol and thymol he gained no conclusive results. The action of the different drugs was evidenced within the course of two to three days, and continued from five to six.

Treatment of Multiple Warts by the Internal Use of Magnesium Salts.

A. Hall (*British Journal of Dermatology,* July, 1904) says that it is a well known fact, although some are highly incredulous, that the magnesium salts through internal administration have a direct and specific influence in some way upon multiple warts. After the report of a case thus beneficially influenced,

the author believes that a possible explanation may be that, granted the disease is due to a microörganism, it is one of poor resistance and may be destroyed by a very slight alteration of the soil; thus an increase of magnesium salts in the tissue juices, a small quantity of arsenic, thyroidine, etc., may be sufficient to retard the further growth of the organism, with consequent shrinking of its new formation and disappearance of the disease. Such a view is consistent with what we observe in other parasitic diseases.

Treatment of 300 Patients Bitten by Rabid Wolves.

Bades (*Zeitschrift für Infectionskrank.*, Bd. 47) after exhaustive experiments with the Pasteur treatment combined with his serum succeeded in curing the severest form of rabies. Of the 300 cases treated all were infected by rabid wolves, which are known to produce the most virulent infection. Cases with fourteen to twenty days' incubation were saved. The deaths, which were an extremely small percentage, could only be attributed to the newness of the treatment.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Operations upon the Eyeball in the Presence of an Infected Conjunctival Sac.

Chas. S. Bull (*Medical Record*, Sept. 24, 1904) says a careful microscopical and bacteriological examination should be made of the contents of the conjunctival sac in every suspected case, carrying the examination as far as the cultivation of the bacteria in a proper medium, and the subsequent inoculation of the germs.

If toxic germs are found in great numbers, no matter what their varieties, no operation on the eyeball should be undertaken until the germs have disappeared, and the conjunctival sac has been rendered as sterile as we can hope to make it.

If there be suppurative disease of the lacrymal passages, whether of canaliculi, sac, or nasal duct, all operations upon the

eyeball are positively contraindicated. The lacrymal sac must be excised, and the lacrymal puncta must be obliterated by the galvano-cautery, before any operation on the eyeball is undertaken. In the case of a catarrhal dacryocystitis, or of mucocele of the sac, inject daily with an antiseptic astringent solution, and free irrigation through the nasal duct carried out until all secretion has ceased. Even in cases of great urgency, as for example, acute inflammatory glaucoma, the writer would not feel himself justified in modifying the above statement.

If the secretion of the conjunctival sac on examination is found to be infected, but the bacteria are few in number and of slight toxic variety, operations may be done on the eyeball when necessary, but these eyes should be opened and examined twice in the twenty-four hours, and the conjunctival sac gently irrigated with warm normal salt solution, or warm sterilized boracic acid solution, and then the eye should be immediately rebandaged.

In operating upon the eyeball in the presence of an apparently normal sterile conjunctival sac, the following steps should be taken:

1. The forehead, eyebrows, temple, cheeks, bridge of the nose, and external surface of the lid should be carefully cleansed with hot water and soap, and dried with aseptic cotton pads.

2. The margins of the lids should be carefully but gently rubbed with sterilized moist cotton pads, and simultaneously irrigated with a warm sterilized physiological salt solution.

3. Careful irrigation of the conjunctival sac with the same sterilized normal salt solution and then closing the lids with a moist sterilized cotton pad. The lids should remain closed in this way until the speculum is introduced.

In all cases the bandage should be removed and the eye examined under the strictest aseptic precautions, as strict as those employed at the time of operation.

On the first sign of infection of the wound, the edges of the lids are to be thoroughly cleansed in the same manner as at the time of operation; the conjunctival sac is to be thoroughly irrigated with the sterilized normal salt solution; the wound is to be reopened and cauterized through its entire length with the galvano-cautery; and the anterior chamber is to be gently but carefully irrigated with a sublimate solution (1:5000); and then the conjunctival sac must be again irrigated, and the lids must be closed simply under a moist sterilized pad.

Chronic Suppurative Otitis Media.

J. F. McCaw (*Medical News,* Aug. 27, 1904) believes that chronic otorrhea is not given the importance that its gravity demands. He says in all cases the treatment should be based upon the pathologic condition present. In addition to proper attention to the nose and nasopharynx and all minor surgical procedures, appropriate treatment to the middle ear will yield good results in a large percentage of cases. When caries is limited to the ossicular chain and there are no contraindications, ossiculectomy should be the operation of selection. Cases presenting symptoms of extension beyond the tympanic cavity should be subjected to the radical operation.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Precancerous Keratosis of the Mucous Surfaces.

Leucokeratosis of the mouth, according to John A. Fordyce (*Journal of Cutaneous Diseases,* September, 1904), chiefly concerns us in its relation to cancer, aside from the interest which is attached to its differential diagnosis from lichen planus, lupus erythematosus, and other conditions which bring about similar changes in the surface epithelium. Butlin states that continued observation has led him to believe that its importance as a precancerous condition has been underestimated rather than exaggerated. It may exceptionally continue to slowly spread for forty or fifty years, however, before malignant change takes place.

It varies from a slight thickening and bluish-white opacity of the superficial layers of cells to circumscribed or diffuse hyperkeratoses which lead by pressure to atrophy of the papillary layer. Sooner or later warty outgrowths appear on the affected surface, which point with a fair degree of certainty to a beginning malignant growth.

Attacks of superadded inflammation may give rise to some pain or soreness of the tongue and to a great increase in the amount of infiltration beneath the epidermis. In same cases examined by the writer there was found little or no inflammatory

reaction in the tissues beneath the epidermis, while in others a dense mass of lymphoid and plasma cells was observed. Sclerotic thickening of the connective tissue of the mucosa may be limited to the papillary body or extend to the muscular tissue of the tongue, giving rise to hypertrophy and fissuring of the organ. In addition to the irritation of tobacco smoke and syphilis as etiological factors, there is, in Butlin's opinion, some inherent vulnerability of the tissues of unknown cause which predisposes them to the change in question. In no other way can we explain the exceptional cases where neither syphilis nor tobacco can be invoked. The genito-urinary tract in the male and the vulva and vagina in the female are at times affected in a similar manner, and here the causes which are operative in the mouth are absent. The continuous irritation of the mouth by tobacco smoke is probably the most constant and important factor in bringing on the condition. It is analogous to the hyperkeratosis of the skin caused by paraffin oil, or tar, and to the epithelial changes in the skin of the scrotum of chimney-sweeps caused by soot. In all of these conditions combustion products are probably the active agents in stimulating the epithelium or in interfering with the normal and regular changes which take place in the cell nuclei.

On the lip a similar keratosis or hyaline degeneration of the surface epithelium, accompanied or followed by an acanthosis, precedes the development of cancer.

While the superficial cells are undergoing degeneration the deeper cells of the spinous layer are actively growing. Cancer of the lip, tongue, and interior of the mouth is almost without exception of the squamous-celled type, producing the characteristic pearl bodies and invading the deep tissues. The formation of hyaline or completely keratinized pearl bodies may predominate in the histological picture, or, on the other hand, the hypertrophic prickle-cell layer may continue to proliferate as such with little tendency to form horny tissue. The metastases in the lymph nodes have the same general features as the original tumor.

The rodent ulcer type of epithelioma which predominates on the face, and originates from the basal layer of the epidermis or outer root sheath of the hair, has never in the writer's experience been found on the mucous surfaces. Butlin states that the only form of carcinoma which has been found as a primary disease of the tongue is the squamous-celled variety.

The mucous surface of the cheek and the floor of the mouth may also be the primary seat of a carcinoma.

The coincidence of epithelioma of the dorsal surface of the hand which developed from a seborrheic wart in an old woman, and epithelioma of the mucous surface of the cheek, has been noted. In a man a primary carcinoma of the cavity of the mouth with ulceration and secondary infection of the lymph nodes produced a condition suggesting an actinomycosis. Fistulous tracts subsequently formed, discharging curdy-looking pus, which still further enhanced the resemblance of the two affections.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
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The Pelvic Ureteral Sheath: Its Relation to the Extension of Carcinoma Cervicis Uteri.

J. A. Sampson (*Journal of the American Medical Association,* Sept. 15, 1904) says the pelvic portion of the ureter is surrounded by a sheath which is apparently derived from the tissue along or through which the ureter passes, and owes its origin to the peristaltic movements of the ureter, thus causing intermittent pressure on its surrounding tissue. In favor of the above it may be said: (*a*) That the sheath as such is absent in the fetus; (*b*) that in a case of double ureter, in which the ureters were close together, one sheath was common to both; (*c*) that its structure varies with that of the surrounding tissue; (*d*) the ureter deprived of its sheath may form another from the tissue in which it becomes embedded; (*e*) the sheath is developed best in parts where there is opposition to its contractions, as in the pelvis; while in the abdomen, where it lies in loose adipose and fibrous tissue which offers very little resistance to the contractions of the ureter, a definite sheath is imperfectly formed or absent.

Near the bladder the ureter is reënforced by muscle bundles, some of which apparently come from the bladder, as described by Waldyer, while others are apparently derived from the outer coat of the ureter, as described by Disse. These muscle bundles

also form a sheath about the ureter, with which the sheath previously referred to fuses. While the two may be considered different portions of one sheath, on account of their origin and the fact that the lower end of the fibrous sheath apparently encircles the upper end of the other, they should be considered as separate structures.

The formation of a sheath about the abdominal portion of the ureter is very imperfect and in places apparently absent, which may possibly be explained on the ground that the surrounding tissue is loose, and on this account offers little resistance to the contractions and expansions of the ureter.

The inside of the sheath is filled with adipose tissue and fine strands of connective tissue in which are embedded the larger vessels of the periureteral vascular plexuses, and also possibly lymph channels.

While the sheath protects the ureter from the invasion of inflammatory processes and new growths, at the same time the local thickening of the sheath may interfere with the function of the ureter, thus giving rise to hydroureter and renal insufficiency and predisposing the kidney to infection, and in cases of ureteritis helps form the thickened ureter found in these cases.

Stricture of the lower end of the ureter demonstrates the imperfect formation of this sheath, as where the sheath is well formed expansion of the ureter is restricted, causing a stricture, while above this place the loose tissue (sheath) about the ureter may give way, permitting the tortuous condition and kinking of the ureter sometimes found in these cases—*i.e.*, a hernia of the ureter through its sheath.

The ability of the ureteral sheath to resist the invasion of carcinoma depends more on the nature of the particular growth than any quality of the sheath, for the latter is derived from the surrounding tissue and behaves toward the growth as does the rest of the tissue about it. (*a*) In some cases one finds a marked hypertrophy of the sheath, thus temporarily protecting the ureter, and later this hypertrophy may compress the ureter. (*b*) In other cases the ureteral sheath may be invaded with very little or no apparent attempt at hypertrophy, while in one case studied the growth gained access to the inside of the sheath and extended along the ureter within the sheath.

This sheath is of importance in operations in the pelvis, for if the integrity of the sheath is preserved, that of the ureter is assured. On the other hand, freeing the ureter from the sheath.

unless done with great care, is attended with dangers of ureteral necrosis. Also in ureterovesical implantations the ureteral sheath should be preserved and sutured to the bladder, thus not only protecting the ureter, but, what is also of great importance, the tension of the implantation is relieved.

Alexander's Operation on the Round Ligaments.

Stewart McKay (*Australasian Medical Gazette,* July 20, 1904) says that retroflexion of the uterus in virgins and unmarried women when there is no prolapse, and when there are no adhesions present, is the condition for which this operation is most suitable. Retroversion of the uterus he considers a suitable condition, for though a retroversion may cause no symptoms, still if the uterus is allowed to remain in its normal position the abdominal pressure may in time convert the retroversion into a prolapsus or a retroflexion. If after performing the curettage he finds the uterus retroverted, he shortens the ligaments as a routine practice. If with retroflexion or retroversion there is slight prolapse of the uterus, shortening the round ligaments is a good operation when used in conjunction with amputation of the cervix and colporrhaphy. This allows the uterosacral ligaments (the chief support of the uterus) to regain their tone. In well marked cases of prolapsus the operation may be done if the woman is in the child-bearing period; if the menopause is past, or if near at hand, ventrofixation is the proper operation for severe prolapse, though of late he has adopted a plan of removing the uterus by vaginal hysterectomy. It is such an easy matter to explore the ovaries and tubes through the internal ring that he has adopted this method in preference to the median incision when he wishes to remove a small ovarian cyst or a hydrosalpinx.

Pyelonephritis and the Puerperal Condition.

C. R. Wallick (*British Gynecological Journal,* August, 1904) endeavors to answer the following question: What is the effect of a pyelonephritis upon a woman in the puerperal condition when the vulva is exposed several times a day to the infective influence of a purulent urine; and whether in case of an elevation of temperature it is possible to distinguish between a fever due to pyelonephritis and one due to puerperal infection?

From a number of collected observations he formulates the following conclusions: The recovery may be perfectly normal and apyretic, particularly if no fever has been present for some time before labor; but there may be pyrexia if the pyelonephritis had provoked any fever shortly before labor. This pyrexia, however, might be distinguished from the fever of puerperal infection by its presenting wider oscillations of daily temperature, sometimes reaching or even exceeding 2°, and by a morning remission to 37° C. or lower. Moreover, the pulse would not exhibit an acceleration corresponding to the elevations of temperature; and the general condition of the patient outside the daily period of fever would be more satisfactory than in puerperal infection.

Conservative Treatment of the Uterine Adnexa.

J. Clarke (*American Journal of Obstetrics,* August, 1904) reports several cases. In one case the outer half of the right Fallopian tube was involved in tubercular disease; he removed that part alone and left the inner half of the tube patent by a salpingostomy. In another the appendix was adherent to a small ovarian cyst; only the cyst and appendix were removed, part of the ovary being retained. The patient subsequently married and had a child. Other cases of resection of the ovaries are reported, also seven cases of the conservative treatment of inflammatory conditions of the appendages. In cases of small pyosalpinx the tube was disinfected by sterilized water and then by mild sublimate solution. Pregnancy occurred subsequently in the first case. The results, on the whole, have been excellent.

Ovarian Hemorrhage.

A. Buerger (*British Gynecological Journal,* August, 1904) reports the case of a very hard-working woman aged thirty-one who was admitted into hospital with symptoms of internal hemorrhage. On abdominal section the source of the bleeding was found to be in the ovary, which was removed, and the woman recovered. The substance of the ovary was crowded with luteum cysts, and the walls of some of these were extremely thin. Under the influence of menstrual hyperemia these cysts had become distended with blood and then ruptured.

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ORIGINAL CONTRIBUTIONS.

ANENT COMMON FURUNCLES.

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Throughout India, Arabia, and certain other localities there occurs a variety of furuncular inflammation much more serious in character than the ordinary boil as observed in this part of the country; it is designated the "Delhi" boil (or sore), being an indurated, indolent, very intractable lesion, papular in its early stages, encrusted or fungating in the advanced stages, and extending by ulceration of the skin.

Another and perhaps not entirely dissimilar affection is the *furunculus orientalis* (Aleppo boil), a furuncular skin disease said to prevail in Syria, Persia, Barbary, and other warm regions; but it is not improbable that a number of skin lesions not strictly furuncular in character are embraced in this classification. No further consideration need be given these two varieties in this dissertation, as its scope is intended to permit discussion only of ordinary boils almost daily observed in the experience of the average medical man, be he surgeon or general practitioner.

Among older writers there occurred much speculative theorization as to the exact clinical and pathological characteristics as well as the causative factors concerned in the production of an ordinary boil. Some observers designated it as a pustular disease of the skin, the rational outcome of some indefinite or unknown constitutional dyscrasia, and believed the advent of suppuration clearly proved this theory; moreover, they contended that marked relief to the supposed systemic disorder always followed the discharge of purulent material. These theoretical propositions, *in rerum naturæ*, are manifestly untenable and incorrect, (1) as it has been clearly demonstrated that the skin is not the only tissue involved in the morbific process,

and (2) that the underlying systemic disorder, if there be any, operates only as an accessory causative element; furthermore, that the development of a furuncular lesion cannot be said to depend solely upon the condition of the general system of the individual.

The most reasonable definition of a common boil is: A nodule formed on the skin by a circumscribed inflammation of the corium and subcutaneous connective tissue, surrounding or enclosing a central slough (core), and probably due in part to some constitutional or perhaps digestive derangement plus local irritation; and there must be added to this description a local infective principle (bacterium), lest the writer be justly accused of opposing the edicts of advanced bacteriological and pathological dignitaries. It so happens that the true infective agent, the *fons et origo mali*, is a microbe whose normal habitat is the external layer of the human epidermis, viz., the staphylococcus pyogenes; but just why this bacterium under certain conditions is capable of inciting furuncular inflammatory lesion, while in other instances no harm results from its presence, does not appear to have been satisfactorily explained. All that can be safely said is, in the presence of local irritation it occasionally does so; but it seems to generally remain inoperative (dormant or latent) except when there is present (1) an impoverished condition of the general system, and (2) some local irritation.

Common boils may be single or multiple in their original development, and not infrequently do they appear in successive crops. As abundant local irritation necessarily exists after the first furuncular lesion has occurred, extension of the infection is rendered almost inevitable unless extreme care be exercised in protective treatment. Usually boils develop singly, and sometimes follow each other in regular sequence regardless of the method of treatment employed, though as a rule by adequate local measures not only may successive crops be avoided, but it is possible to abort the original lesion. In some instances there may appear but one or two, in others a dozen or more, there being no recognized or prescribed limit to the number which may occur under any circumstances; and the number of individuals afflicted with these comforters of Job at the same time in certain localities has inspired the belief that boils may be classified among the so-called epidemic diseases.

The most frequent sites of furuncular lesions are those parts of the body in greatest measure exposed to local irritation—*e.g.*,

(1) the nape of the neck, (2) the hands, (3) the face, (4) the back, (5) the buttocks, (6) the knees; but they may develop anywhere except on the palms of the hands and soles of the feet.

It has been claimed that certain occupations predispose more or less to the production of boils—*i.e.*, that they are more common in those individuals whose occupations bring them in continous contact with filth (chimney sweepers, rag pickers)—but the truth of this view does not appear to have been clearly established. According to the experience of the majority of observers, neither the social standing nor the occupation of the individual can reasonably be accorded a prominent place in the list of accessory causes. The male sex is more susceptible than the female in the ratio of about one to three or four, but this may be easily explained by the difference in environment. Age has no special influence, pro or con, as boils have been observed in both extremes of life, but they are more often than otherwise encountered in those of middle age. Climate cannot be said to be a contributory causative factor, as furuncles may develop with equal frequency at either climatic extreme. Season seems to have some bearing on the production of these lesions, more occurring during the spring than any other period. This well known fact probably inspired the popular aphorisms that a boil comes from bad blood; that it is due to humors of the blood (whatever that expression may signify); that its occurrence in the spring is beneficial; that it saves a doctor's bill; that it acts as a depurant to the general system; that development of the boil prevented a severe illness; that each boil is worth five dollars to the possessor thereof, etc.—all of which are as fallacious and unreasonable as they are untrue.

The literature of this subject is already so extensive that it seems hardly necessary to interpolate a description of the symptoms of an ordinary boil, but a few outlines may not be amiss. There is first usually observed an itching at the site of the beginning inflammatory process; soon a reddish pimple appears, sometimes tipped with a minute vesicle, in the center of which is generally found a hair; the pimple rapidly becomes larger and harder; the reddened area increases in size and grows darker; pain ensues, stinging at first, then throbbing in character; suppuration takes place, and in five or six days perforation occurs at the summit; pus is discharged, pain abates, and hardness diminishes; a day or two later the slough (core) is expelled; the boil then subsides, and healing rapidly takes

place, leaving a depressed purple scar. This is the typical course of a common boil when left to nature. The constitutional disturbance is generally slight or practically *nil*. In this connection, however, it must not be forgotten that more often than otherwise furuncles develop in those individuals whose general health is already below the normal standard. Local pain and discomfort may be exceedingly annoying during the inflammatory stage.

In the management of common furuncles, like many of the other ordinary local affections to which the genus homo is prone, numerous and widely divergent lines of treatment have been advocated and practiced by adherents to different views. The purely non-operative method, which has perhaps been productive of the most favorable results, may be described as follows: The objects to be borne in mind are: (1) soothing and protecting the inflamed area; (2) the exclusion of air; and (3) antisepsis. To accomplish these take a thick layer of absorbent cotton considerably larger than the inflamed area; on the center of the cotton spread with a spatula an appropriate quantity of the following ointment (Bulkley); this to be laid over the inflamed surface and held in place by strips of adhesive plaster across the ends, but in no case passing over the boil:

Carbolic acid	5 to 10 grains.
Fluid extract ergot	1 to 2 drachms.
Powdered starch	2 drachms.
Zinc oxide	2 drachms.
Rose-water ointment	8 drachms.

The relief which this dressing affords is oftentimes surprising. The ointment soothes and protects the irritated and inflamed area, and the absorbent cotton prevents external friction. If the patient is comfortable the dressing may be allowed to remain intact for twelve to twenty-four hours, and when removed another spread with fresh ointment should be immediately applied. If discharge of pus has occurred, the surface should be gently cleansed with absorbent cotton, but squeezing for purpose of evacuation must not be permitted. In many instances under this treatment the boil is aborted and subsides apparently without suppuration; in others it ruptures spontaneously in a comparatively short time. Bulkley says it is practically never found necessary to incise a boil when this method of treatment is employed, that it may be used in all stages, keeping the ointment on until the lesion is quite healed. If other boils develop he directs that the ointment be applied early, and by this means they may be promptly aborted.

Another non-operative plan worthy of especial mention is the following: The inflamed area is first thoroughly cleansed with soap and water, then by lightly sponging with absorbent cotton dipped in alcohol. If suppuration has already supervened, and if perforation has occurred, the orifice should be carefully cleansed by using a small piece of wood (a hardwood toothpick) covered with absorbent cotton; then apply a strong germicide directly to the center of the lesion. There are several substances which may be employed for this purpose, but the most efficient is probably carbolic acid. If more than one boil be present fresh cotton and applicators should be used for each. Antiseptic precautions are important, that infection be not extended. If simply a pustule has developed it may be perforated by means of a toothpick moistened with carbolic acid, and having removed the purulent material the area should be again sponged with alcohol; then apply a liberal quantity of aristol about the perforation and dust boric acid freely over the inflamed surface; dry absorbent cotton, held in place by strips of adhesive plaster, completes the dressing. This treatment should be repeated daily so long as may be required. As a word of caution let it be repeated that pressure to evacuate the contents of a boil at any stage should not be permitted.

The old-fashioned flaxseed poultice need only be mentioned to be condemned. While it is admitted that the heat and moisture afforded by such a poultice will soften the tissues, so to speak, and relieve pain and tension incident to the inflammatory stage of this affection, it must also be remembered that these agencies promote and expedite the growth and development of all forms of microörganismic life, hence their employment in the treatment of boils is distinctly contraindicated. The statement from the patient is familiar to the effect that despite the fact that his first boil was treated by poultices in the routine way, other similar lesions quickly followed in the immediate locality. The reason for the successive crops under these circumstances is too obvious to require citation.

There is one form of poultice, however, which the writer desires to recommend for use in the early stages of furuncular disease where for any reason surgical intervention is inadvisable, where pain and tension are practically intolerable, and where mitigation of suffering by tissue relaxation becomes an important desideratum, viz., bichloride gauze wrung out of boiling water, or plain gauze wrung out of carbolized water, applied in a thick pad over the diseased area, extending some distance

beyond the inflamed center, and covered with oiled silk, rubber tissue, waxed paper, or oiled paper. This possesses all the advantages that can reasonably be ascribed to the old-fashioned flaxseed poultice without any of the objectionable features; the moist heat affords relief from pain by inducing tissue relaxation, and the character of the application tends to militate against rather than favor the development and multiplication of bacteria; furthermore, and more important still, is the fact that, while it may not cure the boil, it is not conducive to the formation of others.

A common practice which is more or less popular and sometimes effective is painting the surface of the boil with carbolic acid, tincture of iodine, tincture of camphor, or other antiseptic. If this treatment be instituted sufficiently early in the progress of the affection it may cause abortion in a certain percentage of cases, but it is not to be recommended except at the inception of the disorder, as in the later stages it may not only fail in production of good but may be actually harmful. Chloral solution kept constantly applied to the boil is also said to be an efficient local remedy.

Since the microbic origin of furuncular disease seems established beyond reasonable doubt, the natural inference is that any method of treatment which does not apply the remedial agent directly to the focus of the disorder, whether it be by free incision and application of an antiseptic, by the injection of such an agent into the tissue, or otherwise, falls short of the intended mark, is distinctly untrustworthy, and should be promptly abandoned. Likewise it would appear that the habit of awaiting suppuration is to be deprecated; as nature has then already mastered the situation and needs no assistance from the knife of the surgeon, spontaneous perforation will take place followed by the discharge of pus and recovery.

It is not an objectionable plan to freely incise a boil so soon as observed, and the earlier the better. The inflamed area should be first adequately cleansed with soap and water, then a four-per-cent solution of cocaine, or if preferred the Schleich solution, injected into the deeper layer of the skin.* If done carefully this will cause little discomfort. A free incision having been made

*In employing solutions of cocaine or eucaine for production of local anesthesia in minor surgery, the addition of adrenalin chloride is always advisable. This combination renders bloodless the incision of abscesses and furuncles, the excision of enlarged or diseased lymphatic glands, sebaceous cysts, etc., etc. Moreover, secondary oozing does not occur when adrenalin is used.—Q. W. H.

a toothpick or small probe wrapped with absorbent cotton saturated with carbolic acid should be carried to every part of the wound, pushing well out in each direction to be certain no portion of infected tissue escapes. The wound should be dressed by packing with absorbent cotton saturated with carbolic acid, over which is placed the regulation dressing of gauze and cotton held in place by a bandage or adhesive strips. The acute symptoms usually subside within a few hours, and the patient feels decidedly better. This simple operation may oftentimes be performed without local anesthesia, inasmuch as carbolic acid after the first few seconds acts as an anesthetic.

In all cases where suppuration has already supervened it is also the wiser plan to promptly incise. But if a boil be observed before the advent of suppuration, instead of practicing the open method an excellent plan is to inject carbolic acid into the central portion of the inflamed and indurated tissue. If necessary multiple injection may be practiced, depositing four to six minims in each place, but a single deposition of this quantity is usually sufficient where one boil only is present. While pain may be considerable for a few minutes from this method of treatment, relief is generally prompt and results satisfactory. In the judgment of many observers the injection plan offers the most speedy and satisfactory results provided the furuncle be observed early, before suppuration has occurred; but it is advised that incision be practiced under other circumstances. By surgical treatment, either incision with application of an antiseptic, or the injection of carbolic acid as outlined, it is claimed that nine out of ten cases of common boil can be cured in from thirty-six to forty-eight hours, which it is believed cannot be safely promised by other and less radical methods.

As to internal medication. Of course it being recognized that boils are observed most frequently in debilitated subjects, those whose general health is impaired by constitutional disease, an important step in the treatment is to administer remedies which shall have for their ultimate object the restoration of normal tissue resistance, which shall build up the vitiated and impoverished blood and improve general systemic tone. Therefore, whatever be the constitutional disease present, if any, it should receive adequate attention and treatment. While it is not admitted that any systemic disease, *per se,* is the primary and active causative factor in the production of boils, it cannot be denied that there are many disorders which act as accessory causes by lowering tissue resistance, and the relationship there-

fore existing between such diseases and the local affection under consideration becomes rather intimate.

Debouzy states that the administration of two or three teaspoonfuls of brewer's yeast during the twenty-four hours, mixed with beer, taken before eating, is an effective remedy for both carbuncles and boils. In cases of repeated crops of furuncles it may happen that new ones will appear, but it is claimed they are readily aborted by this method of treatment, and which in such cases should be prolonged for a fortnight. He says that diarrhea does not often result from administration of yeast.

Colchicum, one-half grain a day, is highly recommended as a remedy for boils coming in crops. Brocq states that among gouty persons who are attacked with successive crops of boils, but who have neither diabetes nor albuminuria, extract of colchicum in quantities of from one-half to two-thirds of a grain per diem gives favorable and sometimes surprising results. Beer yeast is also strongly recommended by Brocq, who mentions fifty cases of furuncular disease in which this substance was administered, followed by speedy and satisfactory results. He declares that "its effect is so satisfactory that, if I can rely on my own experience in the matter, I should say that fresh beer yeast in furunculosis is as much of a specific as mercury is for syphilis or quinine for malaria. . . . Certainly in my hands this treatment has proved preferable to all its predecessors: benzonaphthol, boric acid, camphorated tar, sulphur, hyposulphite of soda, colchicum, etc."

It is exceedingly doubtful whether the statements of Brocq and Debouzy as to results from administration of beer yeast in furuncular disease can be substantiated by sufficient clinical data to carry conviction, in the face of accumulated evidence in favor of surgical intervention and the promise of prompt and satisfactory relief thereby afforded; but their views are entitled to consideration by virtue of the recognized fact that internal medication is not contraindicated, though it is believed boils may be properly and correctly classified in the category of surgical diseases, and the treatment thereof consequently comes within the province of the surgeon.

To summarize, the writer believes the following propositions can be clearly substantiated by clinical evidence:

1. The old theory that boils are due solely to some constitutional dyscrasia, "bad blood," malaria, diabetes, Bright's disease, etc., is clearly fallacious.

2. That the essential causative factor is microbic, and that

systemic disease acts only as an accessory by lowering tissue resistance.

3. That the *fons et origo mali* (staphylococcus pyogenes) is ordinarily inoperative, and only becomes active in the presence of local irritation.

4. That internal medication, *per se,* in furuncular lesions is not curative, but is indicated, that normal tissue resistance be restored.

5. That the treatment of boils is primarily and essentially surgical.

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UPON PUERPERAL SEPSIS.*

BY CHARLES C. ALLISON, M.D., OMAHA, NEB.,

Professor of Surgery, Creighton Medical College; Surgeon to St. Joseph's, the Wise, and the Douglas County Hospitals.

Puerperal sepsis differs from other infections mainly in the extent of surface exposed, the relation of the lymphatics and the peritoneum to this surface, and the difficulties encountered in employing appropriate surgical dressings. While it is proper, academically speaking, to recognize different types, viz., sapremia, septicemia, and pyemia, yet the chief consideration, clinically speaking, is lymphangitis and an interpretation especially of the lymphatic routes most frequently followed. The vessels are fed by septic material absorbed from ulcerated areas, and a diffuse adenolymphangitis is developed around the uterus extending often behind the peritoneum to the lumbar lymphatics. The pelvic peritoneum is frequently involved, but with proper care the tendency of this complication is toward autolimitation. Definite surgical conditions may be interpreted, we believe, when it is remembered that some local infective process is to be attacked and drained; while an equal if not a greater number of cases are best managed without operative interference. We would not underestimate the need of recognizing a fetid sapremia from decomposing blood-clot, placental débris, or lochia developing comparatively early, or a suppurative sapremia due to absorption of toxic products on a denuded surface, which may be so acute as to cause extensive gangrene from septic thrombosis.

*Read before the Wyoming State Medical Society, Sept. 13, 1904.

Septicæmia due to the entrance of germs into the lymphatics or directly into the blood-vessels will be recognized by the overwhelming constitutional symptoms—the local evidences being less obtrusive.

A *pyæmic* type is of late development and comparatively rare. The absorption of a septic thrombosis or infarct will terminate unfavorably a severe infection in a case where the systemic poisoning has been grave.

The pathology, therefore, suggests a discrimination in the management of these cases, and the correction of a view which we have found to be too generally held, viz., that indications for operation bear a uniform ratio to the gravity of the symptoms.

It may be asked, then, what are the specific indications for the operative treatment, and what are the general contraindications at least for this treatment? In other words, what pathologic conditions in this disease are reasonably amenable to surgical aid, and when is the infection so wide-spread as to make surgical treatment not only futile but dangerous?

(*A*) It is clear that in sapremia the indications are plain, and it seems unnecessary to revive the question of technique in emptying the uterus.

The walls of a septic, recently emptied uterus are very soft. The curette has rightly been looked upon with some suspicion, but the use of a very large instrument with reasonable judgment renders the procedure altogether safe. No ulcerated or infected surface should escape thorough disinfection, the choice of the antiseptic being not so important as its intelligent use. Following this careful but thorough cleansing of the extensive contused parturient surface, the engorged pelvic structures should have rest. This rule should be more absolute, if possible, in its application here than upon the surface of the body.

No greater disturbance seems admissible than the use of a saline vaginal douche followed by the temporary employment of a sterile gauze vaginal tampon.

(*B*) This principle of disinfecting abraded or ulcerated areas applies also in a septicemic form of infection. The application of the ice-bag will be useful in this class of cases.

(*C*) In the type we believe to be quite usual where we deal essentially with lymphangitis and frequently with a pelvic peritonitis, the indications are for drainage of broken-down lymphatics and of the infected pelvic peritoneum by vaginal section.

In these cases the uterus becomes quite fixed—the infection

has involved not only the lymphatics but the ectoperitoneum, and when sufficiently localized drainage is proper.

1. We would not operate early upon an inflamed tube, nor would we operate through the abdomen for a pus tube unless at a late period or in an exceptionally high and well protected abscess.

2. We would not operate for general peritonitis nor for general sepsis without definite local indications, and we believe a hysterectomy rarely indicated.

The Barrows intravenous injection of formalin, if useful, should be employed for septicemia, yet we doubt its growing into general favor.

We must not look for specifics such as nitrate of silver, iodine, or antistreptococcic serum, for pathologic conditions so diversified.

A Chicago scientist has asserted, says a contemporary, that all human beings will have gone insane within 700 years. He gives as the cause of the increase in insanity, drink, overindulgence in drugs, the mad rush for money, overexertion, physically and mentally, the high nervous tension of life, and the present condition of woman as wage-earner and mother. He says: "The society woman and the working woman both live a strenuous life of constant exhaustion. The gay life of pleasure of the one woman and the drudgery of the other are continuously decreasing their nervous strength and energy, and when brain-fagged and physically exhausted they marry; they become the mothers of physical starvelings, who develop into men and women unfit for the burdens of life. These in their turn live in the manner of their parents, weaker and even less able to stand the nervous tension of work and dissipation. These people are often predisposed to insanity and nervous diseases, while often the result is degeneration and imbecility. When men make it possible for women to return to their proper place of home and motherhood, and they can cease the pitiful struggle for existence, leaving the obtaining of a livelihood to the men of the family, then the conditions that produce insanity will diminish. Among the foreign laborers bad whiskey and beer cause more insanity than does anything else. The reason is that the drink is 'doctored' with cocculus indicus or 'fishberry' that is used by the Chinese in catching fish. In other words, drugs and whiskey combined are a good combination upon which to build a lunatic."

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EDITORIAL ARTICLES.

THE PROGNOSTIC VALUE OF THE WEIGHT-CURVE.

The finer methods of clinical diagnosis which the progress of microscopical research has furnished have lately so completely absorbed attention as to divert from the consideration of the older but grosser methods of diagnosis. Interesting observations have recently been undertaken on the weight-curve of patients during the progress of acute infections. Usually loss of weight, it has been shown, does not notably occur until the end of these sicknesses, or at least until the period is reached when the fever falls. This may be seen in scarlatina, variola, and pneumonia, or at least in those cases of these diseases that recover. During the progress of these diseases weight does not vary to any notable degree. It will be found that if the weight should have been taken at the beginning of the sickness, during the first few days there will be an upward trend of the curve. After this a fall ensues which is of little significance, as it usually coincides with a remission of symptoms, as in variola. After the first fall the curve usually maintains a horizontal direction, or it may assume a slightly elevated trend. This, however, is not the case when the resistance of the organism is overcome. There then ensues a sharp decline in the weight-curve, and this sudden drop becomes in itself a prime symptom of prognostic significance, one which in precedence of other phenomena indicates death.

Garnier and Sabareanu have recently made certain observations of the weight-curve in two different diseases, variola and pneumonia. Their observations tend to show that sudden diminution of weight is an inevitable precursor of death. Thus, in one case of pneumonia which was complicated by gray hepatization, on the tenth day the patient weighed 59 kilogrammes, and so

practically continued until the sixteenth day, when the weight fell to 56. In twenty-four hours there was more than 2 kilogrammes lost, and the patient died the next day. In another case of pneumonia, during the first few days of the patient's sojourn in the hospital, the weight increased from being 55 on entry till it became 56 on the twelfth day, 57 on the fourteenth, and by the nineteenth it had become 55, and so maintained itself until the twenty-second, when it suddenly fell to 53, and two days later the patient died.

In typhoid fever Lorain has noted the daily curves, and this same sudden loss sometimes occurs, often preceded by polyuria. In cholera the sudden loss of weight is often phenomenal, and polyuria usually accompanies it. It is always of the gravest prognostic import. It would seem that a process the reverse of that here described also occurs in young children. Budin some time ago called attention to the increase of weight that often preceded death. In these cases the infective process had through plastic formations probably produced diminution of the excreta.

It may be concluded that a sudden diminution of weight during the course of an infective process, while the temperature is elevated and grave general symptoms are present, is an indication full of grave prognosis. A fall of two kilogrammes in twenty-four hours suggests that a fatal issue is near, and one which will make itself effective often within twenty-four hours.

These notions of the weight-curve emphasize the value of maintaining and augmenting weight in infectious disease. Such increase indicates a reaction on the part of the organism of the happiest augury; when it succeeds a fall in weight, it at least indicates that the chances of fatal termination are less and less in the ascendant.

EDITORIAL NOTES.

The Training of the Surgeon.

In an address delivered some time ago before the students of the Yale University, Dr. William H. Halsted took occasion to comment on the training of young physicians who are desirous of taking up surgery as a specialty. After reviewing historically surgery as it has been practiced for the last two centuries, Dr. Halsted made a strong plea for a long postgraduate apprenticeship for those who wish to perfect themselves in the art of sur-

gery. He stated that our present methods are entirely inadequate, and that the problem of the education of our surgeons is still unsolved. He thought eight years as an interne in a large hospital was about the requisite amount of time necessary to train a young man to become a competent surgeon. Such a system has long been a part of the lives of surgeons abroad. While such a system would doubtless be the means of educating a few men, it would hardly be possible for the majority of young men who study medicine to give up so many of the best years of their lives to postgraduate study. In this country, which has produced surgeons second to none in the world, it is doubtful if very many of them had the opportunities which Dr. Halsted considers necessary to produce competent surgeons.

Niels R. Finsen.

By the death of Niels R. Finsen, which occurred in Copenhagen last month, the medical profession has lost one of its most noble characters. For years Finsen had suffered from dropsy resulting from a heart lesion, but so wrapped up in his work was he that he would not take the time necessary to recuperate his health. He first attracted attention some ten years ago by the publication of a paper entitled "The Influence of Light on the Skin," in which he asserted that smallpox could be cured by the red-light treatment. From that time on his work lay in the direction of establishing his theory of the therapeutic value of artificial light rays upon the skin. The curing of a case of lupus vulgaris so interested the Danish government that he was given charge of a small institution in Copenhagen, where many cases of skin affections that had been deemed incurable were cured by him. In 1903 he was awarded the Nobel prize in medicine. His death was undoubtedly hastened by his persistent overwork. In his all too brief career he established phototherapy on a firm scientific basis.

The Leishman-Donovan Body.

One of the most important advances in our knowledge of tropical diseases was brought out at the recent meeting of the British Medical Association. Practitioners in the tropics have long been familiar, clinically, with a form of cachexia, resistant to quinine, which is known as Dum-Dum fever, or non-malarial

remittent fever. This fever is met with largely in Egypt, China, India, and Ceylon. Cachexia with splenomegaly is the most important symptom of the disease. Leishman and Donovan, who have worked for some time past to discover the cause of this affection, have found in the organs of those affected a parasite, which belongs to the genus Piroplasma. This parasite they claim to be the etiological factor in this disease. They have not yet been able to determine how the organism enters the body, and until this is done little can be accomplished in the way of prophylaxis.

A Novel Method of Treating Drunkenness.

Drunkenness, which has of late years developed to an alarming extent in Norway, has caused the authorities of that country to try an original method of curing drunkards of their vice. A foreign exchange gives a brief outline of the method pursued, which is as follows: The drunkard is carefully locked up in a room from which all communication is cut off. He is given for food bread which is soaked in port wine. At first the individual eats his bread with pleasure. A few days suffice to make him thoroughly disgusted with it, and after about eight days of this form of diet he is allowed other food. The disgust acquired by this procedure is as a rule lasting. The very simplicity of this method will commend it as worthy of a trial.

Reducing Temperature by Means of an Ice-bag Over the Heart.

A rather novel method of reducing the body temperature was recently brought forward by Dr. Stephen Leduc, of Paris. His method is that of applying an ice-bag over the region of the heart. Leduc claims that an ice-bag in this situation cools the blood in the heart, and thus the refrigeration extends through the general economy. From his report of its use in typhoid fever, it appears to be an excellent aid in the struggle to keep the temperature down.

ITEMS AND NOTES.

A SOCIETY for the suppression of dust on streets has been founded in Munich.

A LARGE hospital is to be erected in Philadelphia for the study of cancer and allied diseases.

THE new surgical building of Johns Hopkins Hospital was dedicated with elaborate ceremonies October 5.

NEW ORLEANS is to be the site of a hospital built by the United States government for Panama canal patients.

PROF. ORTH, the Kaiser's surgeon, is making a tour of the United States. He is considered one of the most eminent pathologists in Europe.

THE State Board of Health has adopted stricter rules, requiring examination of physicians of other States desiring to practice in Kentucky.

THE editor of *Southern Medicine* announces the consolidation of that journal with *Gaillard's Medical Journal* beginning with the October issue.

THE Medical Directory of the City of New York, in the edition for 1904 just issued, contains the names of 5909 practitioners in Greater New York.

PROF. GEORGE DARWIN, of Cambridge, has been elected president of the British Association for the meeting in 1905, which is to be held at Capetown.

THE President of the French Republic has conferred the grade of Grand Officier in the Legion of Honor on Professor Tillaux, president of the Paris Academy of Medicine.

DR. WILLIAM LORD SMITH, of Worcester, Mass., according to a report from that city, has received the honorary appointment of physician in ordinary to the Shah of Persia.

DR. R. TAIT MCKENZIE, formerly of McGill University, Montreal, Canada, is to be the new director of the new gymnasium at the University of Pennsylvania during the coming academic year.

Spitting on pavements will in future be a costly luxury in Seneca, Illinois. An ordinance recently passed by the city council makes the offense punishable by a fine of $3 to $25.

Dr. Erich Bennecke, extraordinary professor of surgery in the University of Berlin, died recently in the fortieth year of his age of septicemia contracted in the course of an operation.

The Military Medical Academy at St. Petersburg has recently installed a portrait of its honorary member, General Adjutant Kuropatkin, in the main hall as a token of gratitude for his gifts.

It is stated that the government of the Mikado intends to introduce on a large scale into Japan the system of protection against malaria which has been so successful in Italy and elsewhere.

Health Officer Crum, of Ithaca, N. Y., has asked help from the State Health Department to control a threatened epidemic of rabies which has been developing there for the last two weeks.

Major Ronald Ross, the well known English authority on the mosquito theory of malaria, has arrived in the United States to visit St. Louis, where he will lecture, and then go to Panama as a guest of the Canal Commission.

The St. Petersburg Institute of Experimental Medicine has sent an expedition to the shores of the Black Sea to inquire into the prevalence of malaria, especially in the neighborhood of Gagry, which is a climatic health resort.

The federation of the Catholic Temperance Societies of Belgium has decided to organize an international Congress on Alcoholism to be held in connection with the University Exposition which is to take place at Liege next year.

The Berlin Cremation Society has sent to the Pope a petition to which are appended 9500 signatures, praying that the last rites of the Roman Catholic Church shall no longer be denied to persons who wish their remains to be cremated.

Dr. Anatole Meurisset, of Noyon, the old city on the Oise, which was the birthplace of John Calvin, recently entered on his 100th year. He has just brought out a life of St. Eligius, who was minister of King Dagobert in the seventh century and Bishop of Noyon for some twenty years.

THE United States government is preparing to spend $600,000 in improving the reservation and park at Sulphur Springs in the Chickasaw Nation, I. T., for the purpose of making a second Hot Springs similar to the famous Arkansas resort.

AN international congress on accidents among working-men is to be held next year in Belgium. The questions proposed for discussion are: Traumatic lesions and post-traumatic affections; the organization of the first aid for the injured in large towns and industrial centers; the uniformity and centralization of medical statistics.

THE Bulletin of Chicago's Health Department states: The dairy inspectors have inspected 659 dairies, 12,009 cows, representing the shipment of 2486 eight-gallon cans of milk per day. Of these 659 dairies, 32 were in bad sanitary condition and 147 were feeding "wet malt." All of these were immediately notified that they could not ship milk to the city of Chicago, and the dealers to whom they shipped were also notified that they could not receive and sell this milk in the city. The milk from 11 other dairies was also excluded from the city because of bad sanitary conditions or diseased herds.

DR. J. C. MCCONNELL, of the United States Army Museum, who died recently, was distinguished as an anatomist, and also as a delineator of objects of natural history, especially shells and fossils, skulls, and other bones. He had carried on this work for nearly thirty-five years, and according to *Science,* as a draughtsman in black and white line for scientific purposes he had no equal in America if in the world. Many thousand exquisite drawings were prepared by him for the National Museum, and various surveys, as well as for the Army Medical Museum. One of the last important works was the completion of the drawings for the illustration of the still unpublished Miocene volume of the Maryland Geological Survey. Dr. McConnell was a man of attractive personality, and greatly beloved by his official colleagues and all who came in contact with him.

THE authorities in Prussia organized last year, says an exchange, a number of training schools to fit persons for the public disinfection service. Fourteen have been in operation, each giving a course of at least nine days altogether, and restricting the students at each course to ten. Sixty courses have been given in all, with a total attendance of 601; 585 have passed

all the tests and been duly qualified as "graduate disinfectors." The authorities have been so much pleased with the results accomplished that they are urging physicians to call the attention of suitable persons to these courses and advocate their attendance. It is hoped that every district will have one or more of these expert disinfectors residing in it. Special courses for nurses are also planned. It is found that the disinfection service has gained immensely in efficiency in the hands of the graduates of these schools.

The Bulletin of Chicago's Health Department says: The total of 5820 deaths from all causes during the summer quarter of 1904 represents an annual death-rate of 11.95 per 1000 of population, and were 867 fewer than in the corresponding period of 1903—a reduction of 15.6 per cent. There were fewer deaths in each age-period than in 1903, the greatest reduction, 502, being among those under five years of age—a decrease of nearly 22 per cent. During the first eight months of the year there have been 1640 fewer deaths than in the corresponding period last year, and the annual death-rate is 11 per cent less. Compared with 1903 there have been 737, or 13.3 per cent, fewer deaths under five years of age, and the following decreases among the important causes: Pneumonia, 327; nervous diseases, 299; measles, 240; whooping-cough, 190; acute intestinal diseases, 177; bronchitis, 172; typhoid fever, 133; scarlet fever, 129; diphtheria, 121.

Sir William Ramsay, the eminent English scientist, is quoted with the following: "The transformation of radium into helium is in some cases quite certain. But often the new element produced appears in such infinitesimal quantities that it is impossible to measure or work with it. I don't want to specify the quantities so found, but they are frequently like one three-billionth of a milligramme. The transformations are brought about by the application of radium to some other element. If we could only get enough radium—if we could get as much as a pound of it—we should be able to procure the reaction in more measurable quantities. It is also possible to bring about the same transformations by means of Roengten rays, but this method is too slow. An illustration of the effect that radium produces may be seen when it is applied to glass. It thereupon appears to decompose or transform the glass into a matter like lead, a matter like actinium, and still something else."

NEW PUBLICATIONS.

REGIONAL MINOR SURGERY.

The aim of this admirable little book is to provide the practitioner with such information as to fit him to deal with such minor surgical conditions as are likely to occur in ordinary routine practice. For readiness of reference, and brevity yet lucidity of instruction, it fills a place in the physician's library that no other work does. This is a second edition, which, appearing in so short a time from the output of the first, is an indication of the approbation with which it is received.

Regional Minor Surgery. By George Gray Van Schaick, Consulting Surgeon to French Hospital, N. Y. Second Edition, enlarged and revised; 228 pages, bound in cloth. Profusely Illustrated. Price $1.50. New York: International Journal of Surgery Co.

KIRK'S PHYSIOLOGY.

This well known manual of physiology needs no introduction to the profession. It has long maintained its popularity as a leading text-book among students and practitioners. The new edition presents several changes, which have been made in order to conform to advances in various departments of knowledge. These changes are most notable in the sections dealing with circulation, respiration, digestion, and nerve-physiology. The work is complete in every sense, and will furnish the student with an admirable manual of physiological science.

Kirk's Handbook of Physiology. Revised by Frederick C. Busch, B.S., M.D. Fifth American Edition; 535 Illustrations. New York: William Wood & Co.

HOW TO COOK FOR THE SICK.

The importance of good cooking for the sick is so unquestionable that every effort to make this practical must be welcomed by the profession. This useful little book contains innumerable formulas for the preparation of food. It will be invaluable in the diet kitchen, and might without disadvantage find its way into every household that the methods of food preparation may be disseminated as widely as possible.

How to Cook for the Sick and Convalescent. By Helena V. Sachse. Second Edition. Philadelphia: J. B. Lippincott Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Sterilization of the Hands.

C. Ledham-Green (*Birmingham Med. Rec.,* June, 1904) says that even after the most prolonged and energetic washing of the hands in soap and hot water it is not possible materially to diminish the number of microbes on them; and this holds good whether sea sand, marble dust, or Schleich's soap is employed.

There is no advantage in unduly prolonging this washing process, as the hands never become sterile, and owing to the loosening of the epidermis generally appear more infected after than before washing. No advantage is offered by the use of soft soap, or soap containing an excess of free alkali. The water should be used as hot as can be borne and should be frequently renewed. After washing, the hands may with advantage be rubbed with a dry, rough, sterile cloth, to assist in the removal of the superficial cells of the epidermis. The use of turpentine, benzoline, or xylol during or after the washing with soap and water does not appreciably improve the results. The aqueous solutions of carbolic acid, lysol, perchloride, or biniodide of mercury are practically powerless to affect the microörganisms situated on the hands. The use of a saturated solution of permanganate of potassium followed by the application of strong oxalic acid (Kelly's method) gives wholly inadequate results. "Sublamin" cannot be compared in efficiency with the alcohol-sublimate method of Furbringer, which it was introduced to supplant. The combination of an antiseptic like lysol or biniodide of mercury with a soap does not increase the power of the antiseptic, but rather tends to lower it. Such soaps are practically valueless for the cleansing of the hands.

Alcohol possesses a remarkable power of sterilizing the hands, far surpassing that of all other agents. To obtain the full benefit of the spirit method, it is necessary to employ the alcohol for from four to five minutes. Spirit soap is greatly inferior to plain alcohol as a cleansing agent; and the addition of biniodide of mercury or lysol to this soap does not materially increase its value. The power which alcohol possesses of sterilizing the

hands is principally due to its property of hardening and fixing the superficial cells of the epidermis, in addition to which it has a marked bactericidal action. Spirituous solutions of antiseptics are markedly superior to aqueous solutions and the efficiency increases in direct ratio to the percentage of alcohol in the solution up to about 70 per cent, when any further increase in the proportion of alcohol causes a reduction in the sterilizing power of the antiseptic.

Of all the methods tested, the best results were obtained by the following modifications of Furbringer's process: (*a*) The hands are first scrubbed for five minutes with soap and very hot water (about 50° C.), the water to be frequently changed—the use of sterile sea sand as an addition to the nail-brush is an advantage; (*b*) the hands are then rubbed for three minutes with methylated spirit; (*c*) afterwards scrubbed for a minute or two with 70-per-cent sublimate alcohol (1 in 1000); and (*d*) finally rubbed until dry and polished with a sterile cloth.

The author advises the use of gloves or the coating of the hands with a thin layer of hard paraffin when possible, and lays special stress on the importance of avoiding infection of the hands by handling septic material.

The Present Status of the Lorenz Method of Reduction of Bilateral Dislocation of the Hip.

H. P. H. Galloway (*Canadian Journal of Medicine and Surgery*, September, 1904) says that a certain proportion of cases of congenital dislocation of the hip are intrinsically incurable owing to anatomical obstacles which are hopelessly beyond the surgeon's control. The acetabulum may be too shallow to retain the head in position; the head and neck of the femur may be so imperfect or deformed as to be quite unsuited for articulation; or there may be such contraction of the soft tissues as to form an insurmountable obstacle to reduction. The *x*-ray is of great value in many cases in determining the actual anatomical conditions.

Subcutaneous or open division of tendinous muscular and ligamentous tissues which obstinately oppose reduction may be resorted to with benefit in certain cases when reduction by manipulation alone is impracticable.

In about 10 per cent of the cases treated by the Lorenz bloodless method, a perfect anatomical and physiological cure will be obtained.

In some of the cases of apparently perfect cure, redislocation may occur even several months later. A repetition of the operation will be followed by ultimate success in some of these relapsed cases.

In probably 60 per cent of the cases treated by the Lorenz method a true anatomical replacement is not secured, but an anterior transposition of the head of the femur is brought about. In a considerable proportion of these cases the condition of the patient is greatly improved, the shortening being diminished, the limp lessened, and the characteristic deformity largely or completely obliterated. In a word, there is a large and distinct functional gain.

The ideal age for operation is from three to five years. Under three years of age replacement is easy, but the difficulty of keeping the plaster dressing from becoming very foul is almost insuperable. After five years reduction is often very difficult, but success may sometimes be attained up to the age of thirteen years and even beyond. Within reasonable limits the age of the patient *per se* has less to do with success or failure than the anatomical conditions in and about the joint in the individual case. One may fail in a patient of seven years and succeed in another of ten or twelve.

The operation usually is perfectly safe. Accidents have occurred, however, both in the hands of Lorenz and other surgeons. The possible accidents are thus summed up by Ridlon: Paralysis from overstretching; fracture of the neck of the femur; fracture of the shaft of the femur; fracture of the ramus of the pubes; fracture of the ischium; tearing of the perineum; rupture of the femoral artery; gangrene from cutting off the circulation through stretching the femoral vessels.

The Anatomy and Radical Cure of Inguinal Hernia.

D. N. Eisendrath (*Journal of the American Medical Association*, Sept. 10, 1904) says that in the normal inguinal canal the anterior wall is relatively stronger than the posterior.

This condition is exaggerated in inguinal hernia, so that the larger the hernia the greater the muscular gap between the arching fibers of the internal oblique and Poupart's ligament.

In the smaller herniæ almost any of the modern operations either with or without transplantation of the cord will suffice.

When the muscular gap is marked some method must be

employed in which a strong aponeurotic structure is used to fill the gap.

The Andrews modification of the Bassini operation by utilizing a portion of the external oblique aponeurosis as an additional layer in the posterior wall of the canal gives the latter great strength.

The majority of surgeons believe best results are obtained by not transplanting the cord. It is still an open question whether or not the veins should be resected.

Cancer and Uric Acid.

Alex. Haig (*Medical Press and Circular,* September, 1904) concludes his paper as follows: Cancer tends to affect seats of local irritation or ulceration. Uric acid is responsible for more wide-spread and chronic local irritation in all the tissues of the body than any other known substance. Insurance statistics seem to show that cancer is increasing side by side with many other diseases which are no doubt due to uric acid, as more and more uric acid is poured into the body in flesh, soup, meat extracts, tea and coffee, all of which are consumed much more largely at the present day than they were thirty years ago. Natives of countries where the diet is, to a considerable extent, uric-acid-free suffer but little from cancer. While there is some evidence tending to show that when uric acid is present in excess, first in the diet, and as a result in the blood, the incidence of cancer is increased by substances which tend to precipitate uric acid in the tissues, and is diminished by substances which aid its solution and removal from the body. The writer believes that if further statistics support those given above, we need not wait to find a possible parasite, but can at once diminish the destructive power of cancer by cutting off supplies of uric acid and giving solvents.

Hydrotherapy in Psychosis.

Harley Smith (*Canadian Practitioner and Review,* September, 1904) considers hydrotherapy the best of all sedative measures. He has tried it in 79 per cent of his patients, not only in furious excitement and acute dementia, but also in cases of profound dejection and hysteria. He employs baths from one to six hours in duration—baths of not less than twelve hours' duration, and wet packs continued from one to twelve hours. The

baths are given to patients suffering from insomnia, and to the insane who have explosions and paroxysms. The emotional manifestations of hebephrenic patients are largely modified thereby. In hysterical patients the wet packs are better than the baths. In no case has the prolonged bath been abandoned because of a negative result. In several cases it has been continued for long periods, even to 8, 14, and 23 days. Arteriosclerosis and affections of the heart are not a contraindication to the treatment.

Hydrotherapy, properly employed, permits a greatly reduced use of sedative drugs. Alter, however, gives opium to melancholics in increasing doses, also applying the wet pack systematically, thereby hastening the effect of the drug.

Rabies and Trauma.

Pfister (*Münch. med. Woch.*, No. 35) reports a case of a 33-year-old man who with another was bitten by a dog suffering from rabies. Both were subjected to the Pasteur treatment for twenty-five days. One patient remained well, whilst the other four months later received a severe injury to the head, followed two months later by acute symptoms of hydrophobia, to which the patient succumbed. The author believes that the manifestation of this disease was brought on by the injury to the head, or otherwise it would have remained latent.

MEDICINE.

Pruritus Ani.

At a recent meeting of the British Medical Association, Malcolm Morriss (*Lancet*, Aug. 27, 1904) opened a discussion on pruritus ani. He pointed out that pruritus ani might be a symptom or an essential disease. As a symptom it might depend on general or on local causes. It might be due to gout, not infrequently alternating with acute attacks in the toe. Certain articles of diet, such as shellfish and strawberries, might give rise to it, and tobacco might have a like effect. Rheumatism, albuminuria, and diabetes might also give rise to it. Of the local causes the most frequent are piles, constipation, fissure, fistula, ulceration, foreign bodies, worms, pediculi, growths, and irritating discharges. Cutaneous diseases of the region might also cause pruritus. It should not, however, be forgotten that

pruritus ani might be a reflex symptom dependent on disease of the genito-urinary system or on pregnancy or gall-stones. As an essential disease there is not much to be said. It is a sensory neurosis, often originating in emotional disturbances of a depressing character.

Bronson thought that itching was predisposed to by hyperesthesia. The disease might occur at any age, but the cause would vary with the age. In children intestinal worms would be the cause; in young men, local congestion from much sitting, balanitis, and other affections of the genital organs; in young women, menstruation or leucorrhea; in middle age, piles, constipation, or prostatic disease; in women at the climacteric, one of the many disorders of the menopause; and in old age venous stagnation, the pressure of growths, or the irritation of ulcers. The scratching might give rise to many secondary conditions, and the itching might cause much loss of sleep and mental disturbances. The itching is especially severe at night. Though both sexes are attacked, men are more often affected. Mr. Morriss considers that most cases are due to the irritation caused by decomposed sweat or to excessive sebaceous secretion.

As to treatment, the disease is often refractory, but few cases are incurable. Any obvious disorder of the body must be appropriately treated, and any local morbid condition found, such as piles, must be removed. The bowels must be regulated, a bland diet ordered, and highly seasoned food must be forbidden. Abstinence from alcohol must be insisted on, and coffee must be denied. Calomel, ichthyol, and salol are all useful as intestinal antiseptics. Aloes is contraindicated. Tonics might be needed. Sedatives and narcotics should rarely be given, and opium is especially unsuitable, as it has a tendency to cause itching. Large quantities of weak alkaline waters are often a potent aid to local treatment. Locally the most scrupulous cleanliness must be enjoined. The anus must be washed regularly night and morning. Bathing the part with very hot water is of much use, and oatmeal, bran, borax, or carbonate of soda might with advantage be added to the water. In some cases very cold water gives more relief. If there is profuse perspiration a weak antiseptic lotion is useful. Of local anodynes cocaine is the most useful, as a suppository, or as an ointment, or as a lotion, but care must be taken not to let the patient acquire the cocaine habit. Menthol is also useful. Strong solutions of bicarbonate or bisulphate of soda are of value. Carbolic acid and tar preparations suit some cases. Balsam of Peru, chloral hydrate, benzoin, and tinc-

ture of iodine are of great value. Mercury salts are useful as antiseptics, such as ammoniated mercury and calomel. Nitrate of silver is sometimes effective when applied as a caustic, or the actual cautery might be used. Stretching the sphincter might be needed if it is unusually tense, and the wearing of a bone plug might be of value. The patient should be kept cool in bed and sleep between linen sheets. Static electricity and high-frequency currents have proved useful in certain cases.

There is a distinct risk of overtreatment, but the right remedy can be found only by trying all things and holding fast to the good. Perseverance is necessary on the part of the medical attendants as well as the patient. In the purely neurotic forms of pruritus the less local treatment used the better. Arousing the sufferer to a sense of his duties and responsibilities will often do more than any kind of medicament. Much tact and not a little firmness will be needed in dealing with these patients, who have generally no self-control. Hypnotic suggestion has occasionally been successful.

The Use and Abuse of Athletics.

R. E. Coughlin (*Medical Record,* Sept. 24, 1904) says that athletics may be for good or evil and in the same manner as a two-edged sword. The prime object in athletics is improvement of the general health. One writer has said that health, like happiness, does not exist. Each has a goal or limit which, while seemingly attainable, eludes perfect possession. He said the body consists of a number of mechanisms which have the closest and most exact relations, and as they approximate to harmony there is health, but when disordered there is ill health.

To obtain good health muscle building is not a necessity. One cannot judge of a person's health by the size and hardness of the muscle. We have seen that the converse may be true.

To obtain health one must be in a perfectly trained condition, owing to the effects of severe training on the nervous system.

There is no evidence to prove that athletics and muscle building improve the constitution.

One should always keep in mind the fact that built up or hypertrophied muscle has a tendency to degenerate. The heart being a muscular organ shares in this tendency.

In regard to the moral side of the question it remains to be proven that athletics *per se* corrupt the morals. Dr. F. R.

Sturgis is confident that athletics improve the morals of a community. He has seen cases of masturbation cured by athletics.

Although the evidence for and against athletics is contradictory, the whole subject may be summed up by stating that athletics are beneficial when properly and judiciously applied and very injurious when the precautions, above mentioned, are ignored or carelessly regarded.

The Bacteriological Diagnosis of Typhoid Fever.

D. Rolly (*British Medical Journal*, Aug. 27, 1904) gives the result of the examination of 50 cases, and an account of his procedure. Twenty cubic centimeters of blood was obtained in a sterile syringe and added to melted glycerin agar at 42.45; the mixture was plated and the growths examined after half a day. Out of the 50 cases a growth was obtained in 44, the number of colonies varying from 1 to 480. The bacilli were more numerous on the whole at the onset and at the height of the fever than later. No bacilli were ever found when the temperature was normal. The number of bacilli afforded no help to prognosis, some grave cases having many bacilli, while others equally grave and even fatal had few. In 16 cases early in the fever bacilli were found, although the serum test and blood count were both negative. The author holds that it is especially at the onset, when other symptoms are absent, that the bacteriological examination is especially valuable. If a culture on agar cannot at once be made, the author recommends the following simple fluid, in which the blood may be preserved for a short time without destroying the bacilli, until the proper medium can be obtained. Dissolve 5 gr. of peptone and 50 gr. of glucose in 100 Cc. of water; boil for five to ten minutes; pour into large test-tubes, so that each contains 20 Cc.; sterilize, and add 20 Cc. of blood taken from a patient when necessary.

Reflex Disturbances Associated with Adherent Prepuce.

Robt. M. Simon (*Archives of Pediatrics*, September, 1904) reports three cases. The first, a boy aged eighteen months, who suddenly became unable to walk, complained of pain in the hip, increased by attempts at walking; notwithstanding the dragging of the leg, hip disease was not present, inasmuch as after circumcision there was complete and immediate recovery. The

second case was that of a boy of fourteen years, who appeared to have severe intestinal colic; failure of treatment by ordinary methods was followed by success after circumcision, no medicines being given. The third patient, three years old, was troubled with night screaming and complained of pain in the abdomen. Treatment for intestinal indigestion brought no improvement, but the narrowness and adhesions of the prepuce were corrected and after this there was permanent cessation of the symptoms.

In commenting on the cases, the writer explains the first case as due to an inhibition of the spinal nerves; the second as a reflex pain; and the third case was probably a pain from a distended bladder and erection of the penis, since the child would go to sleep after the urine had been voided.

The Blood and Circulation in Uncinariasis.

W. G. Harrison (*Medical News,* Oct. 1, 1904) says that uncinariasis through its extreme anemia exerts a most marked influence on the heart, causing apparent increase in size (most likely dilatation), heaving pulsations, relative insufficiency, thrill and murmurs. While these conditions may be accompanied by an accentuation of the pulmonic second sound, nevertheless they rapidly disappear when the cause of anemia is removed, and by slow degrees the accentuation is likewise obliterated. The murmurs are mostly aortic, soft, and blowing, and are both systolic and diastolic. The fact that the area of heart dulness seems to diminish perceptibly after the relief of the anemia suggests dilatation. The blood-cell changes are not especially significant. No megaloblasts were found in these cases, as has been the rule in previous work. The rise of blood-pressure beginning immediately upon removal of the cause is a safe index of the returning strength of the heart.

A Simple Stain for Tubercle Bacilli.

Among the causes of failure to show up tubercle bacilli C. Taichetti (*Gazzetta degli Ospedali,* No. 61, 1904; *Journal of the American Medical Association,* October, 1904) mentions defective preparation of the material, imperfect staining, and the unfounded notion that a contrast stain is necessary. He uses a simple technique, which includes spreading the material in a thin, even layer on cover-glasses, fixation with heat, staining with

phenic, fuchsin, or Ziehl's (fuchsin 1 part, alcohol 10, phenic acid 5, and water 100), applied hot for ten to fifteen minutes, rinsing, decoloring for one to two minutes in a concentrated alcoholic solution of picric acid, changing the liquid once. The process concludes with brief rinsing, drying, and mounting in balsam. The advantages of this technique are its simplicity and the mild action of the picric acid, while the persistence of the yellow stain gives the impression of contrast staining.

Enuresis of Children.

Rey (*Berliner klin. Wochenschrift,* No. 35) believes that the greater number of cases in children is due to catarrh of the bladder and colon infection, which disappears after the administration of salol and regulation of the diet. It is an important fact that there are usually present large amounts of ammoniacal salts, which are broken up by the salol. Other patients suffer from phosphaturia, increased elimination of uric acid, accumulation of smegma, and oxyuris infection. The author advises against the prevailing custom of circumcision.

Hair in Cicatrices.

Lebran (*Centralblatt f. Path. Anatomic,* No. 14) finds that in superficial defects of the skin the hair root and bulb remain embedded in the living matrix so that the overgrowing granulation tissue severs the hair follicle and developing hair from the surface and forces it into the deep tissues. The result of this is that on account of the density of the scar tissue preventing the growth of the hair to the surface its course is changed, and it grows down into the loose areolar tissue, becoming a foreign body surrounded by giant cells.

Bacteria in the Small Intestine.

Jundell (*Arch. f. klin. Chir.,* Bd. 73) demonstrated in his experiments that the empty small intestine is sterile, and attributes this autosterilization to the superficial cells of the mucous membrane. This is of practical importance where it is necessary to open the small intestine and expose the peritoneum to infection, and suggests that patients subjected to such operations be starved before the gut is opened, and later on fed with sterile food.

THERAPEUTICS.

Osmic Acid Injections for Relief of Trifacial Neuralgia.

John B. Murphy (*Journal of the American Medical Association,* Oct. 8, 1904) is of the opinion that trifacial neuralgia, tic-douloureux, is not the result of a pathologic entity which has so far been definitely determined. He says that the tendency after all types of operation, with the possible exception of removal of the sensory root behind the ganglion, is to recurrence of the disease.

This is probably due to the regeneration of certain nerve elements following the deep operation, and anastomosis and retention following the superficial.

Sudden shocks and irritation to the terminal filaments of the trifacial not infrequently cause an immediate and occasionally a permanent cessation of the neuralgic pain.

The mortality from the superficial exsections is practically *nil;* the mortality from the intracranial operation is great. The hazard is greater than should be taken in a disease which does not in itself jeopardize life.

Injections of osmic acid in one- to two-per-cent solution into the nerve trunks relieve the pain immediately, and in a large percentage of cases for a long period of time. The injections into the superficial tissue for peripheral neuralgia should be abandoned, as the nerve trunks are easily located, and there is no danger of superficial necrosis following such operation.

It should never be injected into a motor nerve or a motor nerve area, and therefore never into the spinal nerves except in amputation stumps.

It produces a local necrosis of the tissue into which it is injected, and even of the wall of the foramen. This necrosis does not suppurate unless the area is exposed to mouth infection. In that case the suppuration often continues for weeks, draining into the mouth, giving no special inconvenience, and in no way interfering with the final result.

The best results are obtained with a 1½- to 2-per-cent solution; this should be injected in many places into the nerve trunk and also into the foramen.

All of the nerve branches should be injected—the palatine, lingual, mandibular, superior maxillary (infraorbital), and supraorbital. They can all be exposed through mouth incisions, except the supraorbital. Many times there are three or four divisions

of the supraorbital, and they should be searched for carefully and each injected. Occasionally it is necessary to inject the auricular branch. The posterior palatine is not so difficult to inject as one would at first imagine.

The foramina can and may be injected without anesthesia or incision. The procedure is quite painful, however, and is not certain in its results.

The injections can be made with local or general anesthesia. The writer prefers the general. The injection is free from danger.

Judging theoretically from the experience with incisions, resections, and ganglion operations, the relief should not be permanent after the injection of the osmic acid. From clinical experience up to date, however, and particularly from Mr. Bennett's showing, the fact is that many cases are permanently cured. Time alone must determine the final result of this treatment. Its ease of application, its *nil* mortality, and its immediate results forcefully commend its use.

Therapeutic Value of Medicated Ointments in Certain Affections of the Nasal Chamber.

Alex H. McCoy (*Medical Record,* Sept. 17, 1904) says that notwithstanding the bent of mind toward surgical procedures for the relief of diseases of the nasal chambers, the rational employment of drugs must still keep our attention. Our constant and persistent use of nasal washes, especially during the winter season in our climate, tends to harmful results. By the employment of curative medicaments in the form of soft ointments in the nasal chambers we can avoid certain risks following the use of washes, etc. The availability, convenience, and adaptability of medicated unguents in the therapeutics of the nasal chambers appeal in a rational manner for their employment. Ointments prescribed should be dispensed in collapsible tin tubes, as this renders them most convenient for use at all times and in all places.

A New Treatment of Enuresis.

K. Rever (*New York Medical Journal,* Sept. 17, 1904) discusses the treatment for enuresis devised by Jaboulay, and used by him successfully in three cases. The treatment is based on the fact that nocturnal incontinence of urine depends upon functional disturbance of the sympathetic nervous system in the region of the solar plexus. The plexus can be reached and modified

by the simple operation of injecting artificial serum into the retrorectal region.

A large serum syringe is used. The patient is placed on a table in the lateral decubitus, the limb next the table being extended, the opposite thigh being flexed on the pelvis and the leg on the thigh. After the customary antiseptic precautions, the operator being at the patient's left, the left index-finger is introduced into the patient's rectum, and the needle of the syringe is inserted almost vertically at the tip of the coccyx or a little to one side, and guided by the finger in the rectum avoids the wall of the latter. As the serum is gradually injected, a slight swelling is felt by the finger, pushing forward the rectal wall. From 3 to 5 ounces of serum may be used. Usually after one injection there will be no more enuresis, but instead a temporary retention. This may be relieved by careful catheterization, when the patient will be found to have recovered his normal control of the bladder.

Diet in Chronic Nephritis.

Lenne (*Therap. Monatsh.*, H. 9) besides putting his nephritic patients on the usual diet allows them to eat small quantities of eggs, meat, and fish. He believes that beer and wine given in moderate doses do not irritate the kidney. He advises the regulation of the consumption of fluids, and the keeping of the skin in a hygienic condition. The newer preparations showed no therapeutic results.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,

Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Tinnitus and its Treatment.

W. S. Bryant (*Laryngoscope*, July, 1904) says that in a very large proportion of cases of tinnitus the sound-conducting mechanism or middle ear is at fault, and in the majority it is wholly to blame. Errors in conduction require treatment more than any other defect in the often complex condition which gives rise to tinnitus.

In myringeal tinnitus the treatment is directed to allaying congestion and acute inflammation by removing any irritating substances, by improving the ventilation through the tube, by

counter-irritation of the nasopharynx, external meatus, and the region anterior to the tragus.

Tubal tinnitus is the most common variety of all. This is the case on account of the influence which nasopharyngeal conditions have on the Eustachian tube, owing to the continuation of the mucous membrane from one to the other and the intimate relations of their nerves and blood supplies. Local treatment of the nasopharynx is indicated in all pathological conditions of the tube, and where the changes in the nasopharynx are marked their correction is of first importance. The tinnitus is apt to be increased in bed, especially in the morning, which is due to the increased swelling of the mucous membrane, and because stasis and engorgement of the turbinates are common at that time; therefore sleeping with the head high is indicated in these cases. In the chronic conditions massage behind the angle of the jaw applied with the finger or vibrator is very useful. Tubal tinnitus depends on pathological conditions in the nose, most of which are due to the gouty conditions. Second only to these in importance are nasal obstructions which are amenable to local treatment. Tinnitus can sometimes be cured by stopping mouth-breathing alone.

A Bacteriological Study of Trachoma.

Arnold Knapp (*Archives of Ophthalmology,* September, 1904) examined bacteriologically 120 cases of trachoma, which were all in the early stages of the disease. As a result of this work, his finding only in 8 of the cases out of the 120 an influenza-like bacillus which could not be differentiated from the true or pseudo-influenza bacillus, morphologically, culturally, or by animal experimentations, led him to believe that the presence of an influenza-like bacillus is these cases of trachoma was accidental.

Knapp's findings do not agree with those of L. Müller, of Vienna, who recently published the result of his investigations in Egypt and Graz. He claims to have found an influenza-like bacillus in 59 out of 155 cases of trachoma—more frequently in recent cases. Although this bacillus cannot be distinguished from the influenza bacillus, culturally or morphologically, Müller does not regard it, however, as identical, as no other symptoms of influenza were present. He has never found this bacillus in non-trachomatous cases, and is inclined to regard it as the inciting factor in trachoma, and has named it the "trachoma bacillus."

Knapp concludes that in the present state of our knowledge we cannot distinguish in their pathogenicity between the influenza bacillus, the pseudo-influenza bacillus, and the Müller "trachoma bacillus."

Temporosphenoidal Abscess of Otitic Origin.

Alice E. Wakefield (*Archives of Otology,* No. 4, 1904) reports the history of a case of latent temporosphenoidal abscess of otitic origin, which was followed by multiple secondary cerebral abscesses, and presents the following conclusions:

1. The history of this case emphasizes the fact that cerebral abscess may develop insidiously and remain quiescent, manifesting no characteristic symptoms for an indefinite period, until some acute illness or violent physical exertion renders the latent process manifest.

2. Uncomplicated acute cerebral abscess may be accompanied throughout its course by repeated chills, high temperature, and rapid pulse and respiration.

3. Localizing symptoms may be absent, unless the abscess itself or the surrounding encephalitis encroaches upon cortical areas whose functions are definitely known.

4. Chronic suppurative otitis media attended with persistent localized headache and occasional attacks of dizziness, nausea, and vomiting, and with progressive loss of flesh and strength, should in the absence of tuberculosis or other malignant disease suggest the possibility of latent cerebral abscess.

5. The importance of post-mortem examination in obscure cases cannot be too strongly emphasized.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Rhinophyma.

In the *Journal of Cutaneous Diseases* for October, 1904, Drs. Grover W. Wende and Charles A. Bentz report a pathological analysis of five separate tumors occurring in the same patient.

All observers of the affection agree that its anatomical structure consists of dilatation of the blood-vessels, leading to the new formation of connective tissue and hypertrophy of the sebaceous glands.

Upon microscopical examination the blood-vessels showed dilatation, varicosities, and thickening. The formation of new blood-vessels was noted. This last may not be easy to confirm, nevertheless endothelium cell-proliferation around the blood-vessels was demonstrated in many instances. The mast cells appearing near the location of the blood-vessels were greatly increased and indicative of marked proliferation. The state of the blood-vessels is undoubtedly very important in connection with the pathological condition, as it governs the incipient stages. Whence the dilatation proceeds cannot be deduced from histological examinations; it may be referred back to an angioneurosis which produces a hypersecretion of the glands. Changes in nutrition must be expected in the locality where dilatation occurs. The greater cornification of the epidermis, which manifests itself clinically as scale formation, may be considered an anomaly of nourishment, and the finding of a bacillus may suggest a mechanical cause producing marked cornification of the epithelium. Whether the rete growths of the epithelium can only be traced to anomalies of nutrition, or whether the concomitant inflammation may not have an etiological significance, cannot be determined easily. The abundant proliferation of epithelium may argue its participation in the inflammatory phenomena. These rete growths would then stand in analogy with the epithelial growths observed in the examination of the chronic inflammatory process undergone by the large tumor. The changed sebaceous glands of the similar tumors are distinguished from the normal in nothing except dilated excretory passages and increased gland formation. There is no numerical increase, consequently the term adenoma is wrongly applied.

This point was confirmed by an examination of normal skin taken from the various regions of the nose, where, in the natural condition, more sebaceous glands exist, and those unusually large, having sometimes as many as twenty acini. There is no difference between the hypertrophy and the dilated duct. The question arises whether the increase in volume of the gland may not be due to a microörganism which lodges in the acini, causing a hypertrophy. A typical connection exists between the increase of blood-vessels and the hypertrophy of the sebaceous glands.

The fibrous tissue existed throughout the tumor, and was equally distributed, but was more dense in certain areas, especially in the vicinity of the sebaceous glands. This varied in color from white to gray; in many places it was of a cicatricial consistency. Judging from the microscopical description, there

was extreme hypertrophy of the connective tissue of the corium. The tissue element arises from the increased and dilated blood-vessels. The young tissue, however, appears to possess little tendency to change into fibrous. The young connective tissue may be discovered in the fibromatous new growth. With this the changes would be limited, which may be secondary to the changes in the blood-vessels, thus accounting for the progressive tissue formation.

There is no doubt that the hypertrophy of the duct of the sebaceous glands, together with the round-cell infiltration, caused pressure which interfered with the elimination of the gland secretion. The stoppage in the excretory passage of the sebaceous gland occurred not only from stagnation in the secretion, but from a cell proliferation. The epithelium was stratified. In close relation to the cells of the connective tissue were found migratory cells of unusual size. These presented distinct types, undoubtedly leading to the development of granulation and young cicatricial tissue, which proliferates, ending as sclerosed connective tissue and scar tissue, which increase and continue to change, and which may account for the large cysts by cutting off the duct.

The mast cells were increased in number, but considering the enormous proliferation of other connective tissue cells, seemed about normal. The plasma cells were of the large variety. No eosinophiles were discovered. Many irregular pigmented cells were found in the tissue, probably migratory.

The conclusions here arrived at comply with the latest interpretations of this disease; nevertheless there are many points unexplained; for instance, rosacea is comparatively a common disease, but extreme cases are rare, and the variations in the hypertrophies themselves continually vary, for the process may stop at any stage. Again, only the skin of the nose may be involved in the process of rhinophyma, while rosacea attacks adjacent portions. One of the most striking features of the disease exists in the fact that while rosacea is more common in women than in men the hypertrophic stage hardly ever occurs in women. Another etiological fact is connected with drinking; nevertheless there are many who drink without inviting any reflex condition in the face, while in others it only amounts to a transient congestion. Again, in some cases the condition of telangiectasis ensues, in others that of rosacea without hypertrophy.

It is hard to tell whether the infection has anything to do

with the process, although some authors seem to find bacteria in the ducts of the tumors leading to rhinophyma. The same thing is true with the duct, where there is no hypertrophy. If the bacillus may be considered as an etiological factor in the production of seborrhea, comedones, and the acne pustule, it also may be regarded as an influence in the alteration of the sebaceous glands in connection with the development of rhinophyma.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

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Missed Abortion.

G. Orthmann (*British Medical Journal,* Sept. 17, 1904) observed this condition in a woman aged twenty-seven, subject to mitral incompetence, who had already aborted twice. At the end of October, 1902, she came once more under treatment, and stated that she had not menstruated for five months. The uterus reached to the level of the umbilicus; the parts of the fetus could not be defined, nor had the mother felt any movements. There was a little show four weeks later. At the beginning of January, 1903, the condition of the patient seemed unchanged, and toward the end of March a mummified fetus was expelled; it measured hardly 2¼ inches, but had reached about the third month of development. There was very little liquor amnii. The fundus still lay midway between the umbilicus and pubes. After application of the tampon to the cervix, powerful contraction set in, and the placenta was expelled entire; it appeared as a cast of the uterine cavity, 4 inches in length, 3 inches broad, and 2 inches thick. The placental tissues displayed extensive retrogressive changes; numerous minute white patches were detected, and they each showed central softenings so that they were becoming cystic. These changes had originated in degenerated villi.

The Microbes of the Suckling's Mouth.

D. Jeannin (*British Medical Journal,* Aug. 20, 1904) publishes a valuable bacteriology of the mouth of the new-born child and the suckling. The following are his conclusions: (1) At birth the infant's mouth is, as a rule, aseptic. (2)

Germs invade the mouth within the first hours of life and before the child has been put to the breast. These germs, always in small numbers, are streptococcus salivæ, S. aerobius micros, and staphylococcus parvulus. (3) The beginning of suckling causes free development of the germs. Within a few hours from three to six species, aerobian and anaerobian, make their appearance. (4) Jeannin has discovered an almost fixed formula for the bacteriology of the healthy suckling's mouth. There are some four to six species, mostly aerobian (pneumococci, streptococci, staphylococci, and bacillus coli). The anaerobians, always in a majority, are relatively inactive and do not develop gas. (5) There is also a pathological formula for infants which are sickly, independent of diseases where specific germs are to be found. The microbes are very abundant and multiply actively, and the anaerobians increase still more in proportion to the other kinds and develop gas when cultured. (6) Extreme development of the microbes of the infant's mouth is invariable amongst infants placed in the couveuse.

The Pathogenesis of Uremia and Eclampsia.

R. M. Willson (*Journal of the American Medical Association,* Oct. 8, 1904) says that it is probable there are at work in the cerebrum as well as throughout the system of uremic subjects at least one, and probably several, toxic substances which exert their influence more or less locally on the cortex.

It is equally certain that other portions of the brain than the cortex are also acted on, as in the production of coma, etc.

No small part in the production of the uremic and eclamptic condition is played by intracranial pressure, due to a temporary excess of fluid, whether acting independently of or in conjunction with the toxic substances already mentioned.

Lumbar puncture will at least temporarily relieve certain of the symptoms most readily ascribed to localized intracranial pressure, and in cases in which the pressure is the main factor drainage of the spinal canal may save life. The procedure, together with free bleeding, purging, and diuresis, should be added to our routine treatment of the condition.

Transfusion of normal salt solution by intravenous injection or hypodermoclysis, except in cases presenting anuria, or a greatly diminished urinary secretion, is contraindicated as tending to increase the liability to saturation of the tissues.

The Freezing Point of the Blood in Pregnancy, Labor, and Childbed.

L. Fueth (*British Gynecological Journal,* August, 1904) concludes from thirty exact experiments that the freezing point of the blood of women during gestation and labor at term is distinctly (from 0.035° to 0.04° C.) higher than that of the blood of women who are neither pregnant nor parturient. This fact cannot, as has been supposed, depend upon hydremia, which recent researches have proved to be absent. Various causes might account for the elevation of the freezing point—difference in the renal activity, or in the nutrition or altered respiration, and consequent difference in the caseation of the blood; but exact researches prove that none of these can be accepted, so that Fueth has to content himself with publishing the fact of this remarkable condition without being able to offer any explanation of it.

Extra-uterine Migration of the Ovum in Ectopic Gestation.

S. Worrall (*Australian Medical Gazette,* March, 1904) reports upon the situation of the corpus luteum in four cases of ectopic pregnancy. In none of the four was there any corpus luteum in the ovary of the same side as the pregnancy; in two instances the corpus luteum was found in the ovary on the opposite side, and in the other two it must be supposed to have been there; so that in all four instances the ovum must have reached the tube by migration either through or external to the uterus. As in the last case the fimbriated end of the tube corresponding to the corpus luteum was occluded, Worrall considers that the migration of the ovum must have been extra-uterine.

Suppuration of an Ovarian Cyst After Enteric Fever.

R. Zantschenko (*Monats. f. Geb. u. Gyn.,* No. 67, 1904) reports a case of extirpation, eight months after recovery from typhoid fever, of an ovarian cyst, which during that interval had enlarged and suppurated. Examination of the contents for microorganisms, and the cultures obtained thereby, proved that the infection of the cyst was entirely due to the typhoid bacillus, and had occurred through the blood-vessels at the time of the fever. The tumor originally was a pseudo-mucous ovarian cyst, and suppuration of such has not been previously recorded.

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ORIGINAL CONTRIBUTIONS.

HYDROTHERAPY IN DISEASES OF THE NERVOUS SYSTEM.*

BY CHARLES W. HITCHCOCK, M.D., DETROIT, MICH.

God lent his creatures light and air,
And waters open to the skies.
—*Holmes.*

In this day of many remedies, when each mail brings to your desk samples and reports of some new drug, a healthy skepticism is at least commendable and a possible guard against the lure set for the unwary. A scientific basis and real merit should be exacted of any therapeutic means offered for our use.

It is the writer's desire to enter anew a plea for simple measures, for the more frequent, the more intelligent, and the more scientific use of water in the treatment of diseases.

We are too easily enamored of the latest combination in some complex chemical group, and prosperous commercial houses attest the ready gullibility of the profession, so eager to bite at ridiculous claims as to the pain-killing properties of this, that, and the other mixture. Those who pass as scientific and intelligent practitioners are often large users in their daily practice of those nostrums which merit the contempt of ethical men.

We must appreciate that there is much for the broad-minded physician to accomplish other than the drugging of his patients. Psychic influences are not to be despised, hygienic measures are too much neglected, and the too prevalent tendency to reach at once for the ready remedy and to see duty done in the administration of tablet, pill, powder, or potion is belittling and narrowing in the extreme. Other measures are more important than these, and he who resorts to drugs before

*Read before the Medical Section of the Mississippi Valley Medical Association at its thirtieth annual meeting at Cincinnati, Ohio, Oct. 11 to 13, 1904.

giving a thought to simpler and better measures has done himself and patient alike an injustice. To give no drug and yet to restore your patient to a normal condition is, indeed, to gain a victory well worthy of pride and satisfaction.

Even in the vestibule of our art water had its place, and long prior to the days of Galen and Hippocrates, according to Chinese archives, a physician of that country prescribed for one of his patients affusions of ice-water. Hippocrates employed water intelligently in the treatment of ulcers, fevers, hemorrhages, and other conditions. Asclepiades, the friend and physician of Cicero, was its warm advocate, and Celsus, the physician both of Ovid and Fabius Maximus, emphasized the importance of friction and exercise in connection with baths.

No little perfection was attained in its use by the Romans, as attested by the ruins of various magnificent baths, which are said to show a remarkable perfection of detail in their equipment.

For eight hundred years the cold bath has been in use among Japanese physicians, and during the middle ages its benefits were not unknown.

To our German confrères we doubtless owe more than to any others for the scientific elaboration of the therapeutic uses of water. Though much enthusiasm for its use was aroused by Priessnitz, an ignorant Bavarian peasant, who, though but an empiric, in 1840 is said to have treated some 1600 patients from all parts of the world, yet to Winternitz, Brand, Strasser, and others we are under obligations for work which has put hydrotherapy on a rational and scientific basis. To Winternitz belongs the honor of having established the first hydriatic clinic, and hydrotherapy finds a place in the curricula of some of the German universities.

Dr. Benjamin Rush, in this country, used cold water in the treatment of rheumatism, gout, and other diseases, and in 1794 recommended broken ice in a bladder to be applied to the head in fevers—certainly an early use of the ice-bag. While sundry articles have during the century just past appeared from the pens of American authors, we know that on the part of the profession generally at least, "innocuous desuetude" has rather been the portion of water as a remedy scientifically applied to morbid states.

The most elementary considerations (on the physical side) on which rests the application of water to the body are, of

course, its great power for absorbing and giving up heat and the great readiness with which it can be applied to body surfaces. Its great capacity for heat makes it a potent means of influencing surface temperatures, and the possibilities of thus inducing important physical changes lead us to more complex anatomic and physiologic considerations. It were, of course, out of place here to enter deeply into all the details of anatomic and physiologic processes here involved, but a glance at some is essential to an intelligent consideration of the scientific basis on which hydriatic measures rest.

It is, of course, largely through the skin that desired effects are produced, and we too seldom appreciate how complex an organ the skin is. The statement that there are ten thousand square feet of capillaries in the skin seems rather startling, yet is well established, and makes us the more readily comprehend its possible importance as a means of heat regulation. Muscular and elastic fibers play a most important rôle in producing tension or relaxation of the skin, and this in turn profoundly affects the enormous mesh of blood-vessels here found. So great are the contractile powers of the skin, and so much are the blood-vessels directly affected thereby, that one writer has spoken of the cutaneous vessels as constituting a great "skin heart." Coupled with the statement that the cutaneous vessels may contain fully one-third of the entire volume of blood, these considerations become highly significant as to the opportunities here present for profoundly affecting the organism through the skin.

Nerves, medullated and non-medullated, are here in abundance—sensory, motor, and vasomotor—and a veritable network underlies the true skin.

Through the skin as an organ of sense, irritants like heat and cold have their primal effects, and most of the bodily functions are in close relations with the cutaneous nerve endings. Not unimportant is the excretory function of the skin, but its most important office is as a heat-regulator, and it is through this function that profound effects are accomplished through the various uses of water.

Direct effects are produced through the well known physical laws that, generally speaking, cold contracts and heat expands. Thus smooth muscular fiber contracts under cold and expands under heat, but contractility is destroyed or paralyzed by an excess of either. Cold improves muscular tone of vessels

and increases tension. Heat relaxes, causes loss of tone. Hyperemia thus results from both, but one is tonic, as the result of reaction, and the other atonic, as the result of relaxation. The caliber of blood-vessels is thus directly affected, and even their contents, for cold increases the number of blood-cells and hemoglobin, while in the absence of reaction both the erythrocytes and leucocytes are diminished. Thus the skin is a most sensitive guard, zealously protecting the bodily temperature and so the normal functions not only through vascular tension, and so the distribution of blood, but even affecting more or less profoundly the state of the blood itself. The inference is easy that the various secretions and excretions will necessarily be altered secondarily to these various changes in vascular tension. The welfare of the organism, then, depends not a little upon the skin.

Both direct and indirect effects are secured from application to the skin. Muscular action may be reflexly stimulated from the reflex areas (intrascapular, epigastric, abdominal, cremasteric, and plantar), and it is wise to remember that certain other skin areas are in close reflex relation with the internal viscera—*e.g.*, the neck and the heart, the hands and the cerebral vessels, the feet and the uterus. Important reflex effects are thus possible.

But what, may be asked, is hydrotherapy. I conceive it broadly to be any application of water to promote the elimination of morbific agents and assist nature's forces. The gastric lavage, the ice-bag, and the high enema I take to be quite as much hydrotherapeutic measures as the application of the douche or other form of bath. It seems an unjustifiably narrow view to regard hydriatic measures as properly confined to the various kinds of bath.

Experiments have pretty well established the wide range of possibilities from the application of this potent remedy. Its largest measure of effect is due to its application to the body surface, and here both thermic and mechanical effects are largely involved. Both heat and cold are irritants to the sensory nerves which pervade the skin in such numbers, and on this fact depend possible results. Circulation, respiration, temperature, tissue-change, and secretions may all be thus profoundly affected. Reflex effects are most important, and are secured through the action of weak irritants in stimulating the nervous supply of blood-vessels, and of intense irritants in paralyzing

their action. Such irritants may produce marked slowing of the heart, with increase of its force.

Cold enemata produce a moderate dilatation of cerebral vessels. Reaction is important, and often the secondary effects of the application of water to cutaneous areas are quite the reverse of those primarily obtained. Baths simply applied act more by hydrostatic effects; douches reaching limited areas doubtless owe more to reflex effects.

The application of cold primarily increases blood-pressure, and even when reaction has established a peripheral dilatation in place of the primary contraction there produced, vessel tone is not lost.

Not more than two minutes after entering a cold bath was required until the blood-cells were largely increased in number, though this diminished later on. Warm or hot baths produce an increase of the relative quantity of acid phosphate in the blood.

Hot and cold applications likewise affect the lymph-flow, both because of changes in other organs and alteration in caliber of lymph-vessels. A warm bath or compress will increase the absorption of lymph, and if followed by cold would empty the vessels into the general circulation.

Both heat and cold promptly affect the respiration. On the muscles the effects are interesting, indeed, cold baths removing the effects of fatigue.

The elimination of urea, uric acid, and other urinary constituents may be thus promoted. That temperature may be promptly affected, the Brand baths in typhoid fever have made widely known. This truth is, however, often lost sight of, that the colder the bath the less active is its power of reducing internal temperature. Let it be said, however, that reduction of temperature is by no means the most important possibility of hydrotherapy. Nerve and vascular reaction are most important sequels of hydriatic procedures, and reactive capacities differ.

I have briefly and perhaps insufficiently cited some of the profound bodily changes which applications of water to cutaneous surfaces promptly produce. Surely any remedy which can thus affect the organism is capable of being made a measure for much good. It is at hand for all to use, its cost is practically nothing, and in several ways it can be efficiently used in almost the poorest home. It has, too, superior advantages to any drug at our command.

The writer is not a crank, seated unsteadily upon a wobbly hobby, who advises that the canteen or the bath-tub replace the medicine-case or other efficient aids in our work, but I do plead for the more general recognition of simple measures and the more thoughtful study of the effect of water as applied to morbid conditions. Too much of tradition and too little of thought cluster about our use of this ready agent.

From my brief references to some of the effects of hydriatic applications, it is obvious that water may be made a promoter of elimination, a stimulant to all the vegetative processes. Properly applied, it is a powerful tonic. It may be an excitant, but it is, also, most beautifully efficacious as the finest sedative at our command.

To the alienist and neurologist, then, water appeals as a happy means of solution of some of his difficult problems. The neuroses and phychoses afford a field for hydriatic measures which have here given the most satisfactory results. Neurasthenia, neuralgia, hysteria, insomnia, general paresis, states of excitement and depression, have all yielded to the happy influences of water properly applied.

While, of course, water under pressure and of stated temperature, easy of regulation, such as can be found in a suitably equipped hydriatic institute, where the Scotch and various other douches can be given, is of distinct advantage, this is by no means a *sine qua non* for excellent work with this potent agent. The full bath, the half bath, ablutions, affusions, the drip sheet, the hot and cold packs, demand no expensive apparatus or equipment for their efficient use, even where no special conveniences are at hand, nor is their technique so difficult that even patients in poor surroundings need be deprived of their advantages.

Those neurasthenics of the sluggish, depressed type, so often the bane of a physician's life, not infrequently yield to properly applied treatment. All of the functions are sluggish, and there is defective nutrition of nerve centers. Vigorous reaction seems a thing unknown. Such cases cannot all, of course, be put through the same paces; the needs of each must be carefully studied; but, in general, nutrition must be increased and reaction secured. They shudder at the thought of a cold bath, and may need careful coddling before much effective work can be done. A dry alcohol rub in the morning in timid cases, later followed by brisk rubbing with a wash-cloth wrung out of equal parts of

water at 75° F. and alcohol, may educate a timid patient up to more vigorous procedure. Or, wrapped in a dry pack for an hour and with open windows, and drinking iced water at intervals, this continued to the point of free perspiration, the patient may then have the limbs, arms, and trunk successively exposed and bathed with water gradually reduced from 75° to 60° F. Friction with a bath mit or coarse toweling will assist in establishing a healthy reaction.

The wet pack, later to be followed by the half bath, will, if well borne, help to establish still more vigorous reaction. Later still the hip-bath, commenced at 90° and reduced to 80° for five to eight minutes, will prove an effective aid. The hip-bath is possible without other apparatus than a wash-tub, and should be accompanied by vigorous friction, and may be followed by affusions gradually reduced from 75° to 60° F.

Douches, sprays, showers, are useful in these conditions, and the Russian bath followed by a salt rub and shower bath has proved an efficient aid to treatment in institutions suitably equipped. I desire to emphasize, however, the fact that much can be done for these patients, with the aid of intelligent coöperation and in the absence of expensive apparatus. The salt rub could be given prior to the affusions, which may follow the half bath, and this is a very helpful measure in establishing a healthful reaction.

An approach to the Turkish bath may be supplied if desired by one of the hot-air cabinets now so easily obtainable.

With neurasthenics of the excitable type the way must be felt very cautiously, as they may balk at a bath temperature to which the phlegmatic will more readily submit. For them, the half bath begun at 95° F. for ten minutes may have to be reduced very gradually, and perhaps only to 85° F. or thereabouts.

A persistence in the course determined on, guided of course by intelligent observation, is the price of the benefit to be obtained. General treatment is better, as a rule, than local measures. The wet pack at 60° to 70° F., followed by the half bath at 80° F. for five minutes, is extremely helpful to a sluggish circulation, and this measure also accomplishes much in those cases in which insomnia is complained of. Experiments have amply proven its sedative effects on the cerebral circulation, and its power for promoting those conditions of the pial vessels most conducive to sleep.

Warm full baths are, as is well known, a most happy sedative in many conditions. With children I have many times rendered a better service by a hot bath than the contents of my medicine-case could possibly afford. This bath, however, must be used with due regard to surrounding temperature, lest so great reaction be induced as to counteract the desired effects of the bath. The Neptune girdle is a helpful measure, which may be applied with little or no disturbance to the patient who declines the bath or more extensive measures, and consists of linen wrung out of water at 60° to 70° F., and covering the lower trunk, this to be overlaid with dry flannel.

Contrary to the time-worn tradition, it is perfectly safe for the patient, after his morning bath, to take his walk in the open air, as soon as reaction is well established. Blood examinations from time to time during treatment may afford helpful indices as to the nutritional effects of the measures instituted.

In hysteria, a treatment similar to that adopted in neurasthenic cases will prove effective. Here the spinal douche and wet pack are of special service. Obviously, in the neuralgias, all nutritional and tonic measures are commendable, and dry packs and hot fomentations have, in cases of sciatica and other neuralgias, accomplished much when medicinal measures had availed nothing.

In some cases local measures have seemed to accomplish most, and in intercostal, cervical, and brachial neuralgias much has been claimed for the Scotch (alternate hot and cold) douche, which, of course, is as yet too seldom available.

Baruch, who, in this country, has done much for hydrotherapy, claims to have accomplished "striking results in many neuroses, especially Graves's disease, chorea, obstinate headaches, paresthesias of various types, the traumatic and occupation neuroses."

No alienist to-day would willingly be deprived of the immense advantages of hydrotherapy in the handling of his cases, and any psychiatric institution abreast of the times is adopting some form or other of hydrotherapeutic equipment, if it be no more than substituting the more cleanly and efficient shower for the old-time tub-bath.

The general practitioner frequently sees mild and even severe types of acute depression in which early institution of appropriate hydriatic measures will afford prompt relief. Cases of acute excitement, too, afford opportunities for putting into

efficient practice the dry pack, the hot or cold pack. Such patients are often denied the sedation which an efficiently given hot bath might afford. A patient with coated or dry tongue, injected conjunctivæ, fetid breath, accompanied with great motor excitement, may have much done by a high enema, a gastric lavage, a cold pack, intelligently given. Cases of this kind are not wanting which have shown prompt abatement of excitement and passed off into most restful sleep. I recall cases in my own practice in which excitement was most promptly allayed, and one case in particular comes to my mind which was on the "ragged edge" of most acute excitement, and which so improved under the use of the cold packs which I directed her to have that she was saved the necessity of an asylum commitment. Surely the rational use of water is vastly superior practice to the too frequent drugging of the patient with nauseous doses of bromides and chloral or other misused sedative.

If I have seemed too elementary, too trite, or too prolix in thus presenting the advantages of water in the treatment of neural and psychic cases, my only apology is the very practical advantage of such methods, which are too frequently scorned by the general practitioner, who is wont, like the Priest and the Levite of Scripture, to "pass by on the other side."

SUGGESTIVE THERAPEUTICS AS PRACTICED BY A SURGEON.

BY BAYARD HOLMES, M.D., CHICAGO,

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Although my practice is almost exclusively surgical and confined to office examinations and hospital treatment, I am amazed at the number of patients I see who are amenable to suggestive therapeutics. It appears to me that in the furor for laboratory examination, systematic study of all possible diseases, the effects of autosuggestion are frequently overlooked. I am constantly impressed with the large number of patients who could be rationally cured by the methods practiced by our friends the Christian scientists, or our new Elijah, John Alexander Dowie.

While still a junior in college I took the practice of my preceptor in Marseilles, and the first patient that I was called to see was an Irish woman who tried to make me believe she

had erysipelas, when as a matter of fact she had excoriated the skin of her leg with some old cough medicine that she had found in her pantry. The eventful practice of a month was again punctuated by a visit to a patient in the adjoining village of Seneca. I found a woman who had been confined to her bed for two years. Her sick-room was a model of artistic furnishing; she was arrayed in a most exquisite *robe-de-chambre*. Even at that early period of my practice this unruffled comfort aroused my suspicion. I was great at physical diagnosis, and made a most elaborate examination, from the hair and nails to the retina and secretions. Failing to find any evidence of disease at the end of two hours' examination, I insisted upon her being properly dressed and coming to the table for dinner. After a good meal, and without any discussion of the matter, I insisted upon her getting into the two-seated buggy and riding with me halfway to Marseilles. She never went to bed again, and her husband dying soon afterward of an acute disease, she took charge of the business for several years, and removed to Chicago, but has always maintained such an antagonistic attitude toward me that I hardly hope for forgiveness. Her daughters, however, frequently call upon me and seem to understand the remarkable cure which I wrought by a single visit and without a particle of medicine.

Very few of the cases which we meet with even in a surgical practice, much less so in a gynecologic or genito-urinary practice, submit themselves to be reported in the medical literature. The cold print and the prudish and hypocritical attitude of the public mind, even of medical men, preclude the full report of a most interesting and most numerous class amenable to suggestion. It is perhaps worth while, however, to call attention again to the errors which might otherwise be made by the following definite and clear-cut records:

GRAVE HYSTERIA IN A MAN, WITH COMPLETE CURE BY A SINGLE SUGGESTION.

On Tuesday, October 28, 1902, I was requested by the internes of the Chicago Baptist Hospital to see a patient in the ward upon whom they had placed the diagnosis of some deep cerebral or spinal lesion. He had been lying rigid, completely anesthetic from his neck down, for a period of nearly five weeks. He had been examined repeatedly and studied by several men, and had submitted to various sorts of treatment, all of which

had been so far unavailing. The physician who had placed him in the hospital had neglected him for some time, and the internes believed he required surgical treatment. Because he was a ward patient and quite a curiosity, I was prevailed upon to look the young man over.

He was thirty years old, of medium build and flesh, of rather dark complexion and strong features. He weighed 140 pounds, was a cheese-maker by profession, and had never suffered of any sickness except an attack of nervous prostration two years before. This condition was initiated by a fall. He was carrying a cheese from one part of the factory to another, when he fell upon the slippery floor, and the cheese came down on top of him. He got up at once and carried the cheese to its place, but within a few days he was taken sick with the symptoms of neurasthenia, and remained away from his work for several months.

Six weeks before this examination he came to Chicago to visit an aunt. He had no occupation, and without any apparent cause he became completely anesthetic and rigid from his waist down. After being cared for for a few days at the home of his aunt, he was taken to the hospital. At times the rigidity partly relaxed, but before he had been in the hospital a week every muscle from his neck down was in a state of tonic contraction. His feet were violently flexed—that is, the toes were thrust forward in the same line as the legs. His knees and hips were immovable, and his arms were rigidly flexed over his chest. He had not voluntarily urinated or defecated since his admission, and the catheterization had resulted in a violent cystitis. He had several attacks of fever, probably urethral and cystic fever, which brought his temperature to 102½° or 103°.

When I examined him I found these conditions: The whole body was so firm that the patient was raised from the bed by his heels and the nape of his neck. His spine was not tender, and was overflexed. It showed no abnormality. His sterno-cleidomastoid muscles were vigorously contracted against the extensors of the neck. All the muscles of the shoulders, abdomen, leg, and calf were violently contracted. I was unable to move either knee or hip, and with difficulty I was able to straighten out his hands and arms, and they remained wherever they were placed, but slowly came back to the folded position. Deep needle thrusts elicited some sensation, but superficial pricking was unrecognized. Heat and cold were also unrecognized.

The urethra was swollen, and bloody mucus was discharged containing many bacteria, but no gonococci. He was said to be uncomplaining, and perfectly resigned to his condition. He talked intelligently, and was very helpful, apparently, in making all of the examinations, and in my efforts to find out where the lesion was located. His pupils were equally dilated, but they reacted promptly to light, and he was able to read ordinary type with perfect ease. He seemed interested in everything going on about him.

His temperature at the time of the examination was 101°, and his pulse was 82; his respirations were somewhat restricted by the rigidity, and he seemed to breathe very shallow and infrequently.

On two occasions he was said to have been in a state of coma for several hours at a time, during which time he was rigid, perfectly unconscious, and unable to swallow or be aroused.

On the following day I saw him again, just as he was waking up from a morning nap. I roused him and begged him to shake hands with me. I saw a slight movement of the right hand in response to this suggestion. I had no time to converse with him or continue the examination that morning, but he was in practically the condition described above.

The next day I saw him again. He had his glasses on, and was reading a newspaper, holding it with his right hand, which I had noticed him move on my suggestion to shake hands. I sat down on his bed and told him he was going to get well, that he was practically over his sickness; and I assured him that there was absolutely no reason why he should not get up and walk at once. He demurred slightly from this proposition, and tried to argue with me, but I would hear no argument, simply insisting that he must get right out of bed and walk about the room. I appealed to his emotions and imagination in every way possible, and at last he asked me if I was a Christian scientist. I assured him that I was just as good as a Christian scientist, and that he should put his confidence in me, and jump right out of bed. With some difficulty I succeeded in getting him to put his arm around my neck and shoulder, and allow me to straighten up, in this way drawing him up and pulling his legs off the bed, thus setting him up on his feet. At this point he complained of severe pain in his knees and legs, and I rubbed them vigorously, and gave his knees and ankles vigorous

massage and flexion. I then urged him to pull himself up on to his feet, always acting in a perfectly passive manner toward him, compelling him to make every effort himself, and got him to walk out of the ward into an adjoining room. Here I inveigled him into walking rapidly and absolutely unassisted back and forth, so that he saw himself in a large mirror half the time. At this juncture I rang the bell and got his interne, Dr. Harris, to come down and see him. We jollied him up, and told him to go to the toilet room and empty his bowels and bladder, and take a bath. We then had him dress, and after dinner sent him out with one of the convalescent patients for a long ride on the street-cars. When he returned, at half-past five o'clock, he said he felt very tired, but it was apparent that the peculiar resigned and composed expression of his face was gone, and that his expression was animated and cheerful. He had only one anxiety, and that was the fear that his friends would think that he could have gotten up and gone about at an earlier period, or that they would imagine that the condition was one in which he voluntarily placed himself. When I assured him that he was perfectly helpless in the matter, but that under no circumstances would he ever be sick like this again, he seemed satisfied, and after another day in the hospital he went home.

Soon afterwards I learned that he had gone into a hospital to have an operation performed upon his spine. I telephoned the surgeon, and learned that he proposed to do the suggestive operation of stretching the sphincter ani and cutting out the pockets and papillæ.

I have had in my experience many somewhat similar cases to deal with, and in two others here recorded I was able to accomplish almost as much for the patients.

Miss Jane Addams, of Hull House, asked me to see a patient on Van Buren Street with the view to undertaking some surgical procedure which would enable the man to walk. I visited the patient in the morning, accompanied by Dr. Galloway. I found a man thirty-five years old, of sandy complexion and good stature, weighing about 170 pounds. He was bright, cheerful, and animated in his expression. He gave me an account of a fracture of his left femur two years before. He had been treated for several months in Cook County Hospital, but when the dressings were removed he found himself unable to walk. He was therefore sent to the Infirmary at Dunning. Here he

remained for almost a year. During this time his wife had kept the family together by washing and doing housework outside. At last she secured a couple of back rooms and brought her husband home. During all the time since his sickness he had been absolutely confined to his bed, unable to rise or put his foot to the floor.

After hearing this history I commenced a careful examination. I found every bodily function perfect. His sight, hearing, and taste were normal; the reflexes were prompt; he had a perfectly well developed chest, and his lungs and heart were free from any organic disease. His urine had been brought to me previously for examination. It showed no disease of the kidneys. In examining his extremities I found no evidence of ankylosis, and only very slight evidence of limitation of motion, which was about the same in the hips, knees, and ankles on the two sides of his body. He had several spots of anesthesia and hyperesthesia on his body, but they were not systematic or equilateral.

I decided that there was no reason why this man should not be about upon his feet, and called for his clothes. After some trouble his wife succeeded in finding enough to dress him decently. I then told him to get out of bed, and after some entreaty succeeded in coaxing him around the room on a cane. I then called for his hat and overcoat, and with the assistance and encouragement of Dr. Galloway and myself he went down a narrow flight of stairs on to the street. It was a beautiful spring day, and we coaxed him three or four blocks away from his home, and then allowed him to pursue his inclinations by visiting a friend.

I heard of him frequently afterward through the Hull House, and found that he had gone to work, and suffered no relapse for at least three years.

In the spring of 1898 a patient was brought into my clinic who complained of great weakness in his right leg, which he claimed was due to an injury of his head some two years before. During a strike at the factory where he had been at work a missile struck him about the middle of the parietal region on the left side. He was unconscious for a while; he was carried home and put to bed, and for two years afterward he was a sick man, unable to work or attend to the most ordinary cares of his house. He consulted many physicians, and one of them suggested the propriety of trephining. This was done, but no

evidence of injury of the brain discovered. The operation was without event. For two or three years following the operation the patient had not done a day's work, and he complained of great mental distress and loss of strength in his right leg. He consulted me, begging me to trephine him and remove some spicule of bone or clot which he conceived he felt under the skull.

After a careful examination I found unmistakable evidence of neurasthenia and hysteria. The patient conceived himself sexually incompetent as the result of his injury, and this wore upon him greatly. He confessed it to me with great reluctance.

After the public examination, in which I neglected to state my diagnosis, I requested him to see me in my office alone. When he entered the office I assured him that I had recognized the basis of his disease, and that I should be able to cure him. This statement greatly rejoiced him, but the next moment I told him that I had discovered that he was an Indian, and he was amazed and chagrined at this announcement. He was consoled, however, when I assured him that it was because I was of Indian extraction myself that I recognized it, and with this basis of confidence I began my cure. I assured him that he was a well man as soon as he would lay aside his cane and go to work. After some entreaty he gave me his cane, and I marched him back and forth in my office without a limp and with a perfectly erect carriage. He complained of great exhaustion after this exercise, but I assured myself that there was no real exhaustion, as his pulse-rate had not been increased by the effort. He left my office that day without a cane, and walked while in my presence without a limp. I saw him every day for a week, and then sent him home with a very definite regimen as a placebo. I heard from him once a week, and saw him when he returned to the city and went to work early in the summer. For the past four years he has occupied a responsible and arduous position at the factories where he was injured.

He sent his father to me for some trifling surgical operation, and in the letter he wrote to me at that time he begged me not to communicate to his father the nature of his previous sickness and the method I had resorted to for his cure.

A TABLET in memory of Dr. Jesse William Lazear, who lost his life during the yellow fever experiments conducted by Major Walter Reed in Cuba, has been placed in the new surgical building of Johns Hopkins University.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

THE PRACTICE OF MEDICINE ON THE COMMISSION BASIS.

Medical circles in Chicago seem to have been agitated pleasantly or otherwise through certain events which have recently happened in that wind-driven city. It had for some time been a matter of current gossip, or rather an affair of definite knowledge, that certain members of the profession had been given to the custom of dividing their fees with those who had referred cases to them. For the purpose of obtaining definite data some one conceived the notion that it was the season for duck-shooting, and the use of decoys was therefore sportsmanlike and permissible. A certain J. C. Evans, M.D., therefore wrote one hundred decoy letters to various representatives of the specialties of Chicago. He stated in the letter that he desired to bring a patient, who had already expressed himself favorably in regard to the person addressed, and he desired to know if he would be allowed 25 per cent of the sum asked for an operation. To this letter he received 44 answers, 18 of which accepted the writer's proposition, and 26 declined. It is needless to say the publication of these letters has caused a riffle of amusement and some consternation. The efforts of some of the writers to disclaim their own statements resemble the feats of a contortionist, or even outrival Admiral Rojestvensky's explanation of how he saw Japanese torpedo boats in the North Sea. Some wrote in a lofty strain, as though they were riding morality like a bucking horse, scarcely to be held on, and others seemed to look on as though from the sublime and unspeakable altitude of their own perfection, that it left the impression they might have been behind the scenes of the game and known the parts of the players. Altogether the profession in Chicago

is just now like a fermenting vat, and it is undeniable what perfumes and putrefactions are contained in the seething mass within.

It is needless to say that among these replies were many transparently honest ones which could only have reflected the indubitable integrity of their writers, and on the whole the result of the decoy scheme is such that Chicago may be congratulated upon its result. This is the day of merry grafters, and a pernicious instinct is abroad which seems to regard every exalted office as a pawnbroker's opportunity. Medicine is perhaps not worse than other professions in this respect, but it seems worse because its ideals are higher and selfishness is the bane of its natural advancement.

The ethics of the American Medical Association are clear and distinct on this matter of accepting commissions: "It is derogatory to the professional character for any physicians to pay commissions to any person whatever who may recommend to them patients." This is the accepted doctrine of all those medical societies which may be in affiliation with the parent society. There is of course much to be said regarding the inadequate payment of the general practitioner who sacrifices his time and gives his services, that the patient may reap the full services of the consultant, but his condition can only become worse by clandestine understandings with consultants, and his pecuniary rewards will never be satisfactory until they stand on the basis of their own worth, in the estimation of the patient as well as in the understanding of the consultant.

EDITORIAL NOTES.

Copper as a Purifying Agent for Polluted Water.

During the past summer there has been considerable discussion in the newspapers in regard to the use of copper and its salt as a method for purifying polluted water. A short time ago the Philadelphia Department of Public Health and Charities authorized the following statement: "The department is not yet in a position to fully advocate the use of copper. The department is now engaged in studying the question experimentally. The results, so far as they go, though not yet conclusive, lead the department to expect that copper in very high dilutions may

prove serviceable in ridding polluted water of typhoid bacilli. The experiments also indicate that in such dilutions copper sulphate has very little action on any of the other organisms commonly found in polluted water. The department has in mind neither the substitution of copper sulphate for filtration nor its use as a supplement thereto; but regards it as possibly a useful agent to be employed in the purification of our water-supply until the filtration plants are completed, when the copper treatment will be abandoned. The department has made a careful study of the literature of the subject, and fails to find any evidence that copper sulphate in the amounts in which it is proposed to use it has any poisonous properties whatever, either as an acute poison or as a cumulative one."

From this report it would seem that copper at best will not be a very reliable agent to be depended on to prevent water-borne diseases.

The Japanese Medical Department.

In the gigantic struggle which is at present going on in the Far East nothing but praise is heard of the Japanese in their manner of conducting their army and medical department. Major L. L. Seaman, who has just returned from the seat of war, in an address delivered before the Association of Military Surgeons of the United States said: "The medical officer is omnipresent. You will find him in countless places where, in an American or British army, he has no place. He is as much at the front as in the rear. He is with the advanced scouts, with his microscope and chemicals, testing and labeling wells so the army to follow shall drink no contaminated water. When the scouts reach a town he immediately institutes a thorough examination of its sanitary conditions, and if contagion or infection is found he quarantines and places a guard around the dangerous district. Notices are posted so the approaching column is warned, and no soldiers are billeted where danger exists. Microscopic blood tests are made in all fever cases, and bacteriologic experts, fully equipped, form part of the staff of every divisional headquarters. The medical officer is also found in camp, lecturing the men on sanitation and the hundred and one details of personal hygiene—how to cook, to eat, and when not to drink, to bathe, and even to the direction of the paring and cleansing of the finger-nails to prevent danger from bacteria."

The Diagnosis of Human Tuberculosis by Agglutination.

At the recent International Congress of Arts and Sciences Dr. P. Courmont, of Lyons, France, read a paper in which he reviewed the experiments that had been done along this line. He said, in speaking of the manner in which the test is made, that if a few drops of the serum of a suspected tuberculous person be added to homogeneous cultures of tubercle bacilli from the blood of tuberculous patients, agglutination results, if the suspect is tuberculous. This reaction is positive, and has been confirmed by the investigations of numerous scientists, covering over 1000 cases—a positive diagnosis occurred in 85 per cent of cases, while in no case was the reaction secured where tuberculosis did not exist. The simplicity and freedom from danger of this procedure makes it obviously of great service in diagnosing cases where tuberculosis is suspected.

Constipation and the X-rays.

The use of the *x*-rays as a means of curing chronic constipation is advocated by A. Weil, a Parisian physician. He has recently published in a foreign exchange a paper upon the results of some observations which he had made as to the application of the *x*-rays upon a limited area of the abdomen. He used as strong an application of the rays as the skin could support without injury, and he found that when this treatment was repeated twice or thrice a week it had an action upon the intestines which allayed spasms and produced healthy motions in patients who had hitherto been unaffected by every kind of medication. It would seem, however, that this treatment unless in the hands of a skilled radiographist would be a rather dangerous one, owing to the burns that might result.

Trading on a Great Name.

The post-office authorities recently issued a fraud order against the Thos. A. Edison Jr. Chemical Company of New York. This company was foisting upon the public a so-called magno-electric vitalizer, depending of course upon its name to impress the buyer. It seems a shame that a great inventor should allow his name to be used in any such shady business, although according to a newspaper despatch the senior Edison claims that he has no connection whatever with the enterprise.

ITEMS AND NOTES.

Dr. Geo. F. Butler has severed his connection with the Alma Springs Sanitarium, at Alma, Mich.

The Atlanta College of Physicians and Surgeons is to erect new college buildings at a cost of $100,000.

It is reported that beriberi is causing considerable suffering among the Japanese troops at the seat of war.

The Sisters of the Order of St. Francis have decided to erect a $30,000 hospital building in Menominee, Mich.

German teeth are becoming so bad that the municipalities are employing dentists to care for the teeth of the schoolchildren.

The Northeast Missouri Medical Association has been reorganized and the name changed to the N. S. Davis District Medical Association.

The next meeting of the International Dermatological Association will be held in New York City under the presidency of Dr. J. C. White, of Boston.

Dr. Darlington, Chief Commissioner of the Health Department of New York, estimates the annual loss caused to that city by tuberculosis at $23,000,000.

Sir Felix Semon, physician-extraordinary to King Edward VII. of England, was the guest of honor at a dinner given at the Chicago Club on September 15.

The annual report of Surgeon-General Robert M. O'Reilly states that the health of the soldiers of the United States army has improved during the past year.

The next annual meeting of the Congress of German Naturalists and Physicians will be held at Meran, Austria, under the presidency of Prof. V. Winckel.

The Canadian Medical Association has passed a resolution asking the government to control the sale of patent medicines on the ground that most of them contain alcohol and their use is becoming a menace to the country.

In Japan coughing children, according to the *Medical Herald* of Athens, Greece, are kept in a room in which naphthalin and camphor are vaporized until the cough is cured.

Major Donald M. M. Ross, the English authority on malaria, will deliver a series of lectures in the medical department of the University of Pennsylvania some time this year on "Causes and Cure of Malarial Fever."

The next Pan-American Medical Congress will be held at Panama in the first week in January, 1905. Dr. Julio Yeaza has been appointed president, and there will be four sections—surgery, medicine, hygiene, and the specialties.

An international exposition is to be held at Liege, Belgium, opening in July, 1905. In connection therewith there will be a congress of chemistry and pharmacy, organized under the auspices of the Liege Pharmaceutical Association and the Chemical Society of Belgium.

There were 64,916 births and 41,376 deaths reported in Ohio last year, and it is believed by the health department that there were many births not reported. The marriages occurring in the State numbered 43,668. Of the deaths 3237 were caused by tuberculosis and 1954 by cancer.

The Grand Duke Michael recently inaugurated at Cannes a convalescent home for wounded Russian officers. The villa is the gift of Baron de Silvansky, and the cost of furnishing has been defrayed by the Grand Duke Michael, the Grand Duchess Anastasia of Mecklenburg-Schwerin, and Countess Torby.

Every day, says the *Novoe Vremya*, the war is thinning the ranks of the St. Petersburg medical men, and thus the remaining contingent of town medical men is overloaded with work. Measures are being taken for recruiting a temporary staff to continue on duty during the absence of the city medical practitioners.

It is stated in the *Herald* that Professor Koch was warmly welcomed at the Pasteur Institute recently. Professor Metchnikoff made a cordial speech, to which Koch replied in his native tongue. The scientists present included Drs. Nicole, Cesredka, Borrel (discoverer of a cancer serum which is now being tested), Chamberland, and Mesnil.

A CONGRESS of chemistry and pharmacy, organized under the auspices of the Pharmaceutical Association of Liege and the Chemical Society of Belgium, will be held in connection with the International Exposition to be held at Liege in July, 1905. In addition to technical matters, questions relating to legislation and professional ethics will be discussed. Communications should be addressed to one of the secretaries, M. J. Raymond, 16 Place des Carmes, Liege, or M. J. Wauters, 83 Rue Souveraine, Brussels.

THE report of the University of Berlin for 1903-04 shows that in certain auxiliary departments of medicine, in which manual dexterity is especially required, women are in increasing numbers finding a field for the exercise of their abilities. In the Massage Institute, under the direction of Professor Zabludowski there were 31 females and only 8 male pupils. In the Neurobiological Laboratory there is a female assistant, and in the Zoölogical Laboratory a woman is charged with the preparation of Arthropoda.

PROF. G. DEBALE, of the University of Liege, together with a number of other university professors of Europe and America, is, according to an exchange, taking up the propaganda for modern Greek as the international language of scholars. The president of the California University, Professor Wheeler, has established a course of modern Greek, entrusting the class to Prof. Albert Putzker. The study of modern Greek is progressing in England, not only among the young men, but also among young ladies at college.

WHEREVER possible, says an exchange, the government of New South Wales deports Chinese lepers. There are now seven of these unfortunates in the leper lazaretto at Little Bay, and arrangements are being made to send them back to China. Victoria has one Chinese leper, and the health authorities of the two states are arranging to send him to China with his countrymen from New South Wales. The patient has no objection to returning to China, but asks the government for 150 pounds ($750) with which to start in business in Hongkong. In similar cases the Victorian government has made grants ranging from 60 to 120 pounds ($300 to $600), as the repatriation of such cases even with a substantial gratuity means a saving to the treasury.

According to statistics published in a recent issue of the *St. Petersburger medizinische Wochenschrift* the total number of medical practitioners in Russia is 21,827, of whom 21,090 are men and 738 women. Of the total number 19,168 practice their profession in European Russia. In St. Petersburg there are 2272; in Moscow 1528; in Warsaw 1034; in Kieff 689; in Odessa 615. In 1903 the number of members of the medical profession holding public appointments was as follows: Professors privat docenten and assistants, 731; medical officers in the army and navy, 3683; district medical officers, 2790; hospital physicians, surgeons, and residents, 1495; municipal medical officers, 565; medical officers to factories, etc., 577, and to railways 541.

The divorce figures of the Census Bureau, says an exchange, show that divorces are increasing in the country, and present some interesting features, notably the fact that early marriages appear to be the least imprudent. In 1900 five out of every 1000 men, gainfully employed, who had been married, were living in a state of divorce on census day, compared with four out of every 1000 in 1890. This ratio of increase held good in nearly every occupation, except that there was no great tendency to divorce in the case of clergymen, teachers, professors in college, manufacturers, public officials, or textile mill operatives. Considering the occupations of males in five great classes, it was found that the highest percentage of divorce was in the class devoted to domestic and personal service. In this class eight out of every 1000 who had been married were divorced, being 60 per cent more than in 1890. The lowest percentage was found among men engaged in agricultural pursuits. The number of divorced men here was four to every 1000 who had been married, but this was considerably higher than the percentage in 1890.

Sir William Ramsay, the eminent scientist, is quoted in the *New York Times* as follows with reference to foods: "One of the new problems that chemic science may decide to attack is the manufacture of foods. Professor Fischer, of Berlin, is now at work on an albuminal substance to resemble the white of an egg. The only way to do this, of course, is to disintegrate and then build up. There has been some hue and cry of late about the danger from phosphorus matches. A German manufacturer has followed up this line of thought, and has invented a phosphorus that is not dangerous to factory operatives or anybody else, and which gives us a match we can strike without carrying

the box. There is room for experiments in the disposal of sewage from large cities by chemic process. You are not yet confronted with this great problem in America so seriously as we are in England. We are experimenting over there with filtration processes on an advanced scale. Heretofore we have been handicapped by lack of definite laws concerning the pollution of rivers. Now the English rivers have been divided among four or five boards of managers, each with absolute authority in its own district. In the course of time some such arrangement may be advisable over here."

THE bulletin of the Chicago Health Department for the week ending October 8, 1904, states: "It is not reassuring to learn that nearly six per cent of Chicago's male population in early manhood is afflicted with Bright's disease; and yet such is the inference warranted by the results of the examination made during the week by the department physicians of 489 applicants for appointment to the city fire department. Of this number 29 (or 5.9 per cent) were rejected for kidney trouble. When it is reflected that the principal cause of such trouble is exposure to cold and wet after a drinking bout, the figures do not speak well for the habits of Chicago's young men. The first death from Bright's disease in Chicago was recorded in May, 1864, but it was not until 1868 that deaths from the malady were reported in sufficient number to compute rates. In the annual report of the commissioner for 1894 it was shown that the rate had increased 84 per cent in twenty years—that is, in the decade 1868-1877—and it was then said, speaking of the group of steadily increasing diseases, that sanitary administration can do little with these diseases, or with the increase of Bright's disease and of the diseases of the nervous system. The high tension of modern life, nowhere higher than here in Chicago, with the besetting temptations to irregular habits and to excesses of various kinds, and its great strain on the most complex and most important mechanism of life, is something that the sanitarian can but recognize and regret; its relief and remedy will come only through saner views and modes of life. Saner views and modes of life have not yet arrived, and the death-rate of Bright's disease has increased upward of another 80 per cent in less than a decade—that is, from 5 in the 10,000 of population in 1894 to 9.09 in 1903, or 81.8 per cent in nine years. The Apostle of 'The Simple Life' has not arrived in this country any too soon. Chicago needs him."

NEW PUBLICATIONS.

SURGICAL TREATMENT OF BRIGHT'S DISEASE.

The surgical treatment of Bright's disease may still be said to be *sub judice*, and the time is not yet perhaps ripe for a full and systematic consideration of the subject. The profession will, however, manifest considerable interest in the statement prepared by Dr. Edebohls concerning the experience of American authorities with this branch of surgery. It is perhaps needless to relate that the author of this book is optimistic in his conclusions as to the need and necessity of decapsulation of the kidney as a surgical resort. His own experience seems to entitle him fairly to these favorable opinions. His surgical results are satisfactory, and the number of times he is able to record "ideal cure" in his tables is a proof that the procedure of which he has been such an able advocate is not one devoid of surgical merit.

The Surgical Treatment of Bright's Disease. By George M. Edebohls, A.M., M.D., LL.D. New York: Frank F. Lisiecki.

DISEASES OF STOMACH AND INTESTINES.

The appearance of a new work on diseases of digestion and nutrition is an event of some importance, as no branch of medicine has perhaps undergone greater change during the past few years. The majority of physicians now in practice have not had many opportunities of familiarizing themselves with the newer methods of diagnosis. Dr. Reed's new work covers very completely in a series of eighty-two short lectures the whole range of gastrointestinal disturbances. These lectures record very satisfactorily modern methods of dealing with the stomach, in a concise and practical way. The chapters on the urine and on diet will be found especially deserving of consideration.

This work is one which from its inherent value will quickly find for itself a place in the practitioner's library.

Lectures on Diseases of the Stomach and Intestines. By Boardman Reed, M.D., Professor of Gastrointestinal Diseases, Temple College, Philadelphia. Cloth, $5.00. New York: E. B. Treat & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Peptic Ulcer of the Jejunum.

Mayo Robson (*Annals of Surgery*, September, 1904) fears that surgeons have not properly grasped the fact that gastroenterostomy is still only an incident in the treatment of gastric ulcer, which treatment ought to be continued on general lines for some time, or until good health is again established. Inattention to oral asepsis and to the gastric condition of hyperchlorhydria subsequent to the operation may, it is stated, be followed not only by a relapse of gastric ulceration, but also by peptic ulcer in the jejunum, which, as it is likely to be acute and not to lead to adhesions, must be regarded as a very serious complication. Jejunal ulceration, however, does not seem to be a frequent sequela of gastroenterostomy, as the author has succeeded in collecting only sixteen cases, which table includes one under his own care. Of these cases, the anterior operation had been done in 13, the posterior in 2, and the Y operation of Roux in 1. This sequela is much more likely to occur after the anterior operation—1 out of 30 that he has performed. Out of 136 posterior gastroenterostomies which he has personally performed, he has not observed a single example, nor, it is stated, has one occurred among 100 posterior operations operated on by a colleague. In all the recorded cases perforation, associated with acute, subacute, or chronic symptoms, occurred. Hence there can be no question, the author asserts, as to the absolute necessity of early operation. When the abdomen has been opened the treatment will depend on the condition found. If perforation has occurred into the general peritoneal cavity, the condition, it is pointed out, will be one of the utmost peril, and only capable of relief by immediate cleansing of the peritoneum and closure of the opening, or by excision of the ulcer with subsequent suture. The author's case was one of peptic ulcer of the jejunum occurring three years and four months after anterior gastroenterostomy, and successfully treated by enterectomy and Roux's Y operation.

Ethyl Chloride as a General Anesthetic.

A. B. Craig (*American Medicine*, Oct. 1, 1904) says the use of ethyl chloride for purposes of general anesthesia has passed the experimental stage. The position of the drug, so far as danger is concerned, has not as yet been definitely determined, though taking all available statistics into account it can be reasonably assumed that it is safer than chloroform, probably safer than ether. The future will no doubt accord it a place somewhere between ether and nitrous oxide gas.

Only the pure preparations of the drug should be used for general narcosis.

The best method of administration is some form of the "open" method—either the Ware mask or the ordinary gauze compress, the former requiring a smaller amount of the drug.

Its use is especially indicated in young subjects.

It is not suited for prolonged operations, and as it does not produce complete muscular relaxation it cannot be especially recommended for the reduction of dislocations, and possibly of fractures, and for divisions of the anal sphincter.

It is indicated in the various brief surgical procedures occurring in dispensary service of general surgery; in short operative measures in gynecology; in a fairly wide field in obstetric practice; and in much of the operative work of the nose and throat specialist.

Cancer.

Some of the more striking features of the study of cancer covering the last two hundred years are, according to A. M. Galbraith (*Medical Record*, Oct. 1, 1904), that (1) cancer is almost totally absent in the tropics; (2) cancer is very rare among savage races; (3) with the advance of civilization, and the increased prosperity of the nations, there has been a steady and marked increase of cancer; (4) this disease is more prevalent among the well-to-do and wealthy than it is among the very poor; (5) it is more common among women than among men; (6) it is a disease *par excellence* of the climacteric; (7) it is hereditary; and (8) in order for tumors to become malignant a lessened physiological resistance of the local tissues, or of the body in general, is necessary.

With our present ignorance of the cause and cure of cancer the first step taken must be in the direction of prophylaxis.

When a woman reaches the age of forty she must be placed in the best possible condition for the resistance of this disease, by local treatment, in case there should be any local inflammation, lacerations, or ulcerations; and secondly, her general health must be looked after, especially as regards diet, exercise, and life in the open air. Should cancer make its appearance, an immediate operation is imperative. If the case when first seen is too far advanced to make operation advisable, or should there be a recurrence of the disease, the *x*-rays and violet rays combined with serum therapy offer the greatest hope—at present we can only say of the alleviation of the disease and its sufferings. Based on the absence of cancer in the tropics and that other well known fact that "light is capable of killing the tubercle bacillus," to the above treatment should be added that of direct sunlight, which should be secured by adding solariums to our hospitals.

In view of the facts of the great and increasing prevalence of cancer, and the inadequacy of the present surgical resources to cope with it, it is to the renewed clinical study of this disease, which has almost been lost sight of, and to experimental serum therapy, that our attention must now be directed to seek the cure for this most terrible and fatal of the diseases of the present day.

The Starvation Operation for Malignancy in the External Carotid Area.

Robert H. M. Dawborn (*Journal of the American Medical Association,* Sept. 17, 1904) says the starvation plan in sarcoma has in some instances effected permanent cures—that is, shrinkages—not otherwise possible; but it is not asserted that such may always be expected. Since, however, this plan is admittedly a *dernier ressort,* any percentage, however small, of such permanent checking of malignancy is a victory not otherwise possible.

In both sarcoma and carcinoma the knowledge on the part of the patient that by this method he has one more chance, though all other plans have failed, and the growth be beyond excision, restores his courage and cheerfulness and puts aside the imminence of despair. As a surgeon has phrased it, we substitute in such a case, instead of the certainty of death, once more the uncertainty of life.

Even in cancers we can be reasonably sure of a few weeks longer life, sometimes up to a year, otherwise impossible when other plans have failed. At first thought, if it should prove but

a month or two of gain we might question whether it would be worth while. But in my experience patients are grateful for even a short respite; and the decision is for them to make, not for us, as to whether it is worth while. Giving a man of wide business interests, for example, a few weeks longer in which to stave off the inevitable may mean everything to him in the orderly winding up of his affairs.

Again and again the writer has found the resultant shrinkage of tumors to give promptly the greatest relief to suffering, and permit the patient to cut down or stop the large doses of morphine formerly demanded. This important point has also been observed by other operators.

Given a growth of the region under discussion, excessively vascular perhaps, and too large to be cut out, in several recorded instances (one of them, the first of all, nine years ago) this operation has so shrunken the mass and so deprived it of blood as to permit, after a short time, an extirpation of the tumor, partial or complete, not otherwise possible.

Treatment of Wounds by the Open Method After Skin-grafting.

D. Bruning (*British Medical Journal*, Sept. 24, 1904) states that he has in cases of skin-grafting by Thiersch's method on both fresh and granulating wounds obtained excellent results by leaving the seat of operation exposed to the open air during the period of after-treatment. This method, he states, is especially indicated in cases in which it is thought inadvisable to administer a general anesthetic. When skin-grafting has been practiced over a large open surface, perfect rest of the patient for some hours after the operation is regarded by the author as an important condition of success. In the open method of treatment the grafts, it is asserted, have usually contracted close adhesions by the end of the first week. The advantages of this method are, according to the author, much greater than those obtained by the usual plan of treatment by thick and close dressings. When the wound is covered by a "protective," and over this by ointment, and the external air is thus shut out, the grafts in consequence of the retention of serous discharge become displaced and are macerated. There is much less risk in the open method of elevation and displacement of the grafts by effused blood, as coagulation and desiccation take place more readily

when blood is exposed to the air. There is of course no risk of disturbance of the grafts by pressure or accidental movement of the dressing.

Liver Abscess Followed by Abscess of Lung and Empyema.

Jas. Cantilie (*British Medical Journal,* Sept. 17, 1904) reports a case of recovery from liver abscess which was followed by an abscess of the upper lobe of the right lung accompanied by empyema. In conclusion the writer says that abscess in the lower lobe of the right lung is a very common concomitant of, or sequence to, liver abscess. In the present case the abscess was in the upper right lobe, between which and the old liver abscess there was no continuity of tissue.

The abscess in the lung was evidently embolic in origin, the embolus traveling by way of the hepatic vein, heart, and pulmonary artery to the upper lobe of the right lung.

The writer reported a case of liver abscess, followed three weeks after operation by an embolism in the ophthalmic vein of the right eye, which led to loss of vision and necessitated removal of the eyeball.

Had the seat of mischief been accurately ascertainable in the present case to have been in the upper lobe, and seeing that the lower lobe of the right lung was also collapsed, the proper surgical procedure would have been ligature of the root of the lung and removal of the whole organ.

Umbilical Hernia at Birth.

A. Fournier (*British Medical Journal,* Sept. 17, 1904) operated upon an infant with umbilical hernia on the day of its birth, and without anesthetics. The incision was made along the median line; three loops of small intestine were found in the sac, one bearing a Meckel's diverticulum, and all adhered to each other and to the walls of the sac. The adhesions were separated with the finger. The operator passed the nail of his forefinger under the lower border of the neck of the sac, which he divided with a bistoury, and then was able to reduce the herniated intestine. The parietes were closed with catgut sutures. Cure was complete by the ninth day. Fournier considers that a congenital hernia requires immediate operation on the day of birth, and that anesthesia is unnecessary.

Perineal Prostatectomy.

Henry H. Morton (*Medical Record,* Oct. 8, 1904) gives the following reasons for using the perineal route: The comparatively low death-rate; the rapidity, ease, and facility with which the prostate can be enucleated; the trifling amount of hemorrhage and shock; the excellent bladder drainage and ability to keep the patient's bed and dressings dry; the rapid convalescence, the patient getting out of bed within ten days. There is complete restitution of the bladder functions in most cases.

MEDICINE.

Dust Infection and Dust Disease.

R. Hessler (*American Medicine,* Oct. 1, 1904) says that by dust disease is meant not the specific diseases which can be transmitted through the agency of dust or may follow the inhalation of dust, such as pneumonia, tuberculosis, typhoid fever, etc., not to mention the lesser troubles of tonsillitis, bronchitis, and the like, but those heretofore vague and illy-defined symptoms-complex that are variously referred to or misdiagnosed as "colds," "biliousness," sick-headache or migraine, hypochondria, etc., or as atypical cases of influenza, rheumatism, neurasthenia, gastritis, malaria, etc., or as cases of a rheumatic or gouty diathesis or of lithemia, not to mention autointoxication, eye-strain, etc.

Cases of dust disease are to be especially looked for under and separated from recognized diseases in which "rheumatic" and "gouty" diatheses play a part, also among cases spoken of as nervous-neurasthenic men and hysteric women; likewise in cases in which there are frequent alimentary or respiratory tract disturbances.

It is most prevalent in crowded cities; country people may become affected or attacked on going to the city.

It is absent among arctic explorers and weather observers on high mountains; men returning home are attacked again.

The manifestations of the disease vary somewhat. Cases may be divided into groups, depending on the part of the body or organ chiefly affected; variations within these groups are slight.

Keeping this dust infection in mind clears up many cases with obscure symptoms and simplifies the prognosis and treatment—telling us what to do and what not to do.

Slight disturbances due to the inhalation of dust can hardly be dignified with the name of a disease. Chronic nasopharyngitis, adenoids, and similar affections are to be regarded as due to a polluted atmosphere, and are common in city residents; affections of this kind are frequent in cases of dust disease.

Dust disease belongs to that class of affections in which there are no marked or recognizable pathologic lesions. Mucin may play an important part. The causative factor is infective dust. Whether it is owing to a systemic infection, due to a microbe invasion, or to a septic intoxication or sapremia, is really immaterial from a clinical standpoint.

The practical application of the recognition of dust disease, or of a knowledge of the evil influence of the dust, lies along the line of prevention, pointing out to the afflicted the nature of their ailment and its cause. In some cases all attempts at medication may prove futile, and relief can only be obtained by removal to a better atmosphere.

Influence of Heredity upon Life Expectancy.

Every unfolding organism, according to H. R. Frank (*Canadian Practitioner and Review,* September, 1904) eventually takes the form of the order from which it sprang. This principle is the keystone of life assurance; for it is the basis of all mortality tables. Of great importance in considering a risk are the habits and environment of the applicant, for next to heredity these play the most important part toward longevity.

A man stands, not as the counterpart of his father or mother, but as the accumulated influences of generations, which may modify many hereditary taints. Nevertheless, a child physically like the mother, say, is prone to exhibit the same diseases as the mother.

There is often a reticence among the laity in admitting a tubercular taint. Relatives said to have died of pleurisy, pneumonia, bronchitis, etc., will be found, on closer examination, to have suffered from a cough for some months previously. There is no valid reason why a person cured of incipient phthisis should be absolutely refused a policy.

Insanity clings to succeeding generations with great tenacity. We frequently see in grandchildren outcroppings of epilepsy, hysteria, and other nervous manifestations.

Epilepsy is undoubtedly a disease of marked hereditary tend-

ency, the mother's influence in transmission being more potent than the father's.

When both father and mother have died of cancer, the applicant cannot be accepted; if only one parent he may, after his thirty-fifth year, receive a policy.

Asthma, rheumatism, heart trouble, hay-fever, and diabetes seem to have a direct heredity influence on the risk.

Alcoholism and a tendency to suicide also "run in families."

The Diazo-reaction.

W. T. Cummins (*University of Pennsylvania Medical Bulletin,* September, 1904) in discussing the diazo-reaction as an aid to diagnosis sums up his paper as follows:

1. The diazo-reaction is of importance in differentiating a relapse from a complication in typhoid fever.

2. It may be of assistance in separating measles from German measles.

3. It has great prognostic significance in pulmonary tuberculosis. It does not appear until late, and is usually noted in a rapid case. When it once appears it persists until death. The average duration of life after the appearance of the reaction is about six months. An unfavorable prognosis should be given in every patient presenting this reaction.

4. The diazo-reaction at a dilution of 1 to 40 is of some value in the diagnosis of typhoid fever, but on employing a dilution of 1 to 150 other conditions are eliminated (except a small percentage of tuberculosis cases), and the test, therefore, is considerably enhanced in value.

Venous Thrombosis in Typhoid Fever.

W. S. Thayer (*Medical News,* Oct. 1, 1904) after analyzing forty-two cases of venous thrombosis in typhoid fever draws the following conclusions: (1) In forty-two cases of typhoid thrombosis the onset occurred almost invariably in the third week or later. (2) Local pain and fever were usually the first symptoms. The fever sometimes preceded the localizing symptoms. (3) In 28.2 per cent of our venous thrombosis cases occurring in connection with typhoid fever there were chills. In several instances the chill preceded the appearance of localizing symptoms. In the past two years the author has seen in consultation

three further cases in which otherwise unaccountable chills during convalescence from typhoid fever were followed by a complicating thrombosis. (4) Venous thrombosis in typhoid fever is usually associated with an increase in the number of leucocytes. (5) Thrombosis is commonest in the lower extremities, especially in the left side. The femoral vein is involved with particular frequency. (6) In the event of a sudden severe pain in the lower part of the abdomen, coming on during the latter part of typhoid fever and associated with a leucocytosis, the possibility of iliac thrombosis should always be considered. (7) Venous thrombosis in a lower extremity is always a serious complication of typhoid fever. Although the immediate danger is not great the after-results are often grave. (8) In thrombosis of the femoral vein a greater or less part of the blood from the affected extremity is often carried up by the iliac vein of the opposite side, the current crossing the abdomen through anastomosis in the hypogastrium, resulting in a characteristic triangular area of varicose veins.

Arterial Sclerosis.

Thos. D. Savill (*Lancet,* Sept. 24, 1904) says that the pathology of the different tunics of the arterial system should be studied separately, just as are the different coats of the heart. Careful histological methods and a large number of specimens are necessary before generalizations can be made; neutral and acid orcein stains are valuable aids. That advanced atheroma and a considerable degree of intimal and adventitial sclerosis may exist without serious consequences and be compatible with extreme old age, provided the muscular tunic is unaffected. The prime importance of the muscular tunic relatively to the intima and adventitia, in that it constitutes the functionally active structure of the arterial system and the regulator mechanism of the whole body. The existence of arterial hypermyotrophy as a substantive generalized change in the arterial system. The importance of its recognition by reason of the potential evils in the way of circulatory derangement, circulatory accidents, nutritional disturbances, disturbance of the balance between the heart and arteries, and the degenerations, which are apt to ensue. It is the first step toward senile (or generalized) decay, and is the main cause of senile or postural vertigo at any age. The combination of arterial hypermyotrophy and focal necrosis of the media is a

most deadly one and may produce death by hemorrhage at a comparatively early age. Arterial hypermyotrophy may result from chronic renal disease, but it has many other causes, all of which probably produce the condition by high arterial tension.

The Diagnosis of Typhoid Fever.

The practitioner will have to depend on the following, says G. Baughman (*Southern Medicine and Surgery,* September, 1904), if he wishes to diagnose typhoid fever during the first week: (1) The history of malaise, anorexia, chance of infection, headache, etc.; (2) temperature curve; (3) pulse (out of proportion to the fever and sometimes dicrotic); (4) tympanitis, gurgling in the right iliac fossa, tenderness; (5) Rose spots at the end of the week; (6) Widal's reaction; (7) blood examination, normal leucocytes, but increased mononuclears and decreased polynuclear count; (8) diazo-reaction; (9) isolation of bacilli in feces; (10) isolation of bacilli from blood, and rose spots or splenic puncture, when practicable.

Bacteriology of Chromidrosis.

Tromsdorf (*Münchener medicinische Wochenschrift,* No. 29) examined the hair in the axilla of a woman who for a long time had suffered from chromidrosis, which caused an intense staining of the underwear. He succeeded in isolating two species of bacteria, one producing a red, the other a yellow, pigment, and was able to transfer them to other patients. The organisms grew very rapidly upon the hair of the axilla and stained the perspiration yellow. He named these organisms "micrococcus chromidrogenus ruber et citreus." Blue sweat he believes to be due to an altered condition of the sweat glands, though it is possible that it may be of bacterial origin.

The Tissues as Water Reservoirs.

Engels (*Archiv für Exp. Pathologie,* Bd. 51) finds that men by drinking large quantities of water do not cause a lasting dilution of the blood, and that increased urination does not produce a concentration of the blood. He also shows that abstaining from drinking water accompanied by great thirst does not

produce a concentration of the blood. He demonstrated on dogs by transfusion of large quantities of water that all organs, the skeleton, and especially the muscles and subcutaneous tissues, imbibed large quantities of water—the muscles two-thirds and the skin one-sixth, whilst the internal organs showed very small quantities.

Arthritis Deformans.

Thos. McCrae (*Journal of the American Medical Association,* Oct. 8, 1904) says that there are two great types of cases, the atrophic and the hypertrophic, which are probably varying manifestations of the same disease.

There are many variations, such as the spinal forms, the so-called monarticular form, the form occurring in children, etc., which are probably all arthritis deformans.

The etiologic factor is not determined, but our present knowledge points to its being an infection of some nature.

No opportunity for pathologic and bacteriologic examination should be neglected.

Hygienic Examination of Flour and Bread.

Drombrowsky (*Archiv für Hygiene,* Bd. 50) finds on examining bread dough that lactic acid is absent, acetic acid present in quantities of 50.8 per cent, lactic acid 25.3 per cent, acid phosphates 22.6 per cent. The addition of yeast to the dough causes an increase in the acidity due to the action of the organism. The most prolific acid producers do not belong to the colon group. He determined that flours showed an acidity as follows: Rye, 0.30 to 0.52 per cent; wheat, 0.23 to 0.4 per cent. These estimations were made on the dry substance.

Arterial Changes in Interstitial Nephritis.

Prym (*Virch. Archiv,* Bd. 177) carefully examined a case of contracted kidney in a man twenty-three years of age not affected with arteriosclerosis. He found the arteries to be generally affected with a beginning sclerosis. There were hyperplastic changes in the elastic tissue of the intima, as well as connective tissue proliferation and fatty degeneration. The author believes that all cases of interstitial nephritis show such changes.

THERAPEUTICS.

The Specific Treatment of Typhoid Fever.

J. M. Hackett (*Medical Record,* Oct. 15, 1904) says that in all cases of typhoid fever mercury is well borne by the system; it requires more mercury to get the constitutional symptoms of tenderness of the gums when typhoid fever is present than under any other circumstances.

In the administration of blue mass in cases of typhoid fever that gradually, as the system becomes impregnated with mercury, just so gradually are the bacilli disappearing, so that when the system is impregnated with mercury to the extent of a slight soreness of the gums the bacilli are no longer active. This is signified by a gradual reduction of the temperature to normal and a rapid convalescence.

With the use of mercury the patient's blood is in a more healthy state; mercury maintains the red corpuscles of the blood, and accordingly the system does not fall into that state of grave anemia so common to the disease under other or no treatment.

The patient may begin taking solid food as soon as the temperature is normal without danger of relapse. This the writer attributes to the healthy condition of the blood due to the action of the mercury in the system.

A few days after the beginning of the administration of the mercury in the treatment of typhoid fever, the tongue gradually becomes moist. The breath gradually becomes less fetid, indicating a more healthy condition of the stomach, and there is a desire on the part of the patient to take the nourishment described. The stools also lose their fetid odor. He has not had a dry tongue continue beyond three or four days after treatment was instituted since he began the use of mercury in this disease.

The temperature of the patient treated with mercury in typhoid fever does not become subnormal after fever drops. The reason the author ascribes for this is twofold: (*a*) We get control of the disease before the patient falls into a very low physical condition, and (*b*) the mercury preserves and increases the red corpuscles of the blood, tending to maintain the physical standard.

It is unnecessary, unpardonable, and unscientific to salivate a patient when using mercury in the treatment of typhoid fever, but the writer has yet to observe any ill effects of the slightest nature from the use of mercury in the system to the extent only of the soreness of the gums.

The Serum Treatment of Puerperal Septicemia.

At a recent meeting of the Berlin Medical Society, Professor Bumm (*Lancet*, Aug. 27, 1904) read a paper on this subject. He said that there is a difficulty in making a proper estimate of the action of the serum, and that recoveries might be attributed to nature as well as to the serum treatment. He has used Marmorek's, Menzer's, and Aronson's serum, the results being as follows:

Streptococcic puerperal peritonitis: Five cases were treated by injections of great quantities of serum without success.

Genuine septicemia: In two cases the serum had not the least effect; one case in which great masses of streptococci were present in the blood recovered after three injections, while two cases complicated by endocarditis were not influenced.

Pyemia: No effect was produced by the serum.

Streptococcic endometritis: Of thirty-five cases five died, nine recovered without a manifest action of the serum, and in twenty-one the injection produced an immediate decrease of the temperature, together with an improvement in the patient's general state.

Although the advantages of serum treatment are very doubtful it is at least harmless, and Dr. Bumm recommends that it should be tried in severe cases. In recent cases without general infection it should always be used. Prophylactic injections should also be given with a view to prevent cases from becoming septic.

The Treatment of the Early Stage of Pelvic Inflammation.

A. Y. Abbott (*American Journal of Surgery and Gynecology*, October, 1904) says a thorough understanding by the laity of the dangers resulting from gonorrhea and abortions would make the lives and happiness of thousands of women more secure, and do away with two-thirds of the work of the gynecologist.

The septic pelvic infections are essentially preventable.

A prompt rational treatment based on a knowledge of the bacteriology of pelvic inflammations will save many lives and cut short the period of suffering.

Early and efficient vaginal drainage when indicated will not increase the difficulties of a subsequent radical operation, but, on the contrary, will add to its safety, and help to make a later conservative operation more feasible and perfect.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
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Conservative Treatment of Diseases of the Ovaries.

J. N. Mendenhall (*American Journal of Surgery and Gynecology,* October, 1904) tells us to preserve one tube and one ovary or a part of one, or a part of both where possible, especially in women during the child-bearing period.

In many cases of pyosalpinx it is sufficient to incise the abscess at the presenting point, externally or per vagina, as a primary procedure, followed later if necessary by enucleation of the pus sacs by the abdominal route.

Conservatism in retaining one or part of one of the ovaries or tubes, or both, resorting to drainage per vagina of hydrosalpinx for the purpose of restoring tubal function, is now accepted by the best practitioners.

There may be recovery without operation by drainage through the tubes, uterus, and vagina.

As stated in the body of this paper, 90 per cent of cases of large gonorrheal pyosalpinx treated expectantly show laboring capacity even in the working classes.

The unhappy consequences not infrequently following removal of the tubes and ovaries, such as hernia, fistula, vasomotor disturbances, melancholia, suicide, and insanity, should make us very conservative.

Rigor Mortis in Still-born Children.

H. W. Parkinson (*British Medical Journal,* Sept. 24, 1904) says that rigor mortis may occur *in utero* and (*a*) may pass off before labor terminates, or (*b*) may occur during and so hinder labor and continue after delivery.

In deaths during the later stage of labor, where the child is expelled soon after death, rigor mortis may set in afterward.

In all cases of still-birth the character of the rigidity is the same, and whereas in children that have been born alive the rigidity is that of ordinary rigor mortis, and the limbs stiffen in the position in which they may be lying, in children still-born the rigidity always takes the same form, and the limbs, although

lying loose and limp, are drawn up more or less into the position they took in the uterus, and even if the rigor mortis had passed off *in utero* before delivery there would be evidence by pressure marks, or the natural tendency of the body and limbs to adopt the intra-uterine position, that this had occurred.

Rigor mortis does not accompany still-birth always, but where it does not present there is no difficulty in deciding the fact from the signs of decomposition present. The mode of death probably influences the rigidity of still-births as it does the rigor mortis of adults, and the only suggestion the writer can make is that possibly the rupture of membranes and discharge of liquor amnii may be a factor.

The point that he wishes to press is that in cases of suspected infanticide, or where the question of life birth comes in, any evidence that the limbs and body have been drawn up while in a state of cadaveric rigidity into the shape in which the body is molded *in utero* is strongly presumptive of still-birth.

The Molecular Concentration of the Blood and of the Urine in Pregnancy, in the Puerperium, and in Eclampsia.

R. W. Lobenstine (*American Medicine,* Oct. 15, 1904) says that from cryoscopic findings there is no evidence of renal inactivity nor of renal retention in eclampsia—*i.e.,* retention of the urinary products, ordinarily supposed to be the cause of the disease, the products in question being crystalloidal in type.

If there is renal retention, it must be a retention of either colloidal substances, which may come from either fetus or mother, or of crystalline substances too small in amount to affect the molecular concentration of the blood.

Inasmuch, then, as the kidneys may be, negatively at least, ruled out as the primary etiologic factor in eclampsia, and as a free interchange may take place between the fetal and maternal blood, we are led to believe, both from clinical facts and experimental research, that eclampsia is an intoxication in which both mother and fetus have a share, the pathologic findings (Schmorl, Williams, and others) in both mother and fetus being due to the formation of multiple thrombi, with subsequent necroses.

What these substances are that give rise to the intoxication, and what part the syncytium plays in their formation, we cannot as yet say.

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ORIGINAL CONTRIBUTIONS.

A CONTRIBUTION TO THE STUDY OF THE PROGNOSIS OF SYPHILIS.

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There is much uncertainty prevailing concerning the prognosis of lues. Much difference of opinion is encountered about this subject, and there are no two authorities who concur in the same view. Some slight discrepancy is nearly always to be found, though, broadly speaking, the essential features of their ideas remain comparatively identical. It is the aim of this essay to discuss the prognostic aspect of syphilis, if possible, in a logical and scientific manner, based partly upon the results of personal clinical observation and partly (and which is of greater importance) upon the expressions of opinion of a number of syphilographers of this country and abroad, whose views must be regarded as trustworthy and reliable, if not decisive. These informations have been gathered by *directly* consulting the authorities enumerated in the subsequent pages.

The author desires to express his indebtedness to Dr. Samuel E. Earp, editor of the *Central States Medical Magazine,* for the questions suggested in the consideration of the above topic, which form the substratum of this article. These queries led the writer to study them in a systematic manner, both from personal clinical experience as well as from authoritative sources, the results of which he has endeavored to embody in the subjoined elaboration of the subject.

The questions which were suggested to the author by Dr. Earp are as follows:

1. Is syphilis curable?
2. Now long should a patient be under treatment?

3. What are the indications of a cure?

4. Are the indications positive and reliable?

Circular letters containing these interrogatories were addressed to known syphilographers of the United States and Europe. Replies were received from some of them, while others have not signified any willingness to accede to the request set forth in the communication. But the smallness in number is readily compensated by the vast clinical experience and keen observations of those few who have participated, whose views must be accepted as conclusive. They may differ in the minutiæ of the basal conception underlying the subject under consideration, but the essential and chief points run with a tolerable precision and accuracy, indicative of similar results derived therapeutically as well as prognostically, as the reader will note by perusing the succeeding paragraphs.

The following replies are appended in order of their priority, and not from a view-point of superiority or preference:

Dr. Duncan Bulkley answers the questions as follows:

1. Is syphilis curable? Yes, with proper treatment, sufficiently prolonged.

2. How long should a patient be under treatment? At least two years; often three or four years are necessary.

3. What are the indications of a cure? Absence of all symptoms one year after full and efficient treatment.

4. Are the indications positive and reliable? Nothing in medicine can be absolutely positive, but the chances of trouble are very remote, under proper care as indicated above.

Dr. Frank G. Lydston answers the first question in the affirmative. To the query, How long should a patient be under treatment? he says: "At least three years on the average." As to the third query he remarks: "There is no positive test. Experience shows that the majority of cases that have been well treated for three years, and who have escaped symptoms for at least eighteen months, are cured. Where patients contemplate matrimony, they should add another year's treatment after apparent cure." The fourth question remains unanswered.

Dr. Fred C. Valentine, of New York City, treats the first question from a hereditary standpoint, thus adding more weight to it and augmenting its value. He says: "From one case observed through three generations, and from a large number through two generations, I think it is curable." As to the length of time necessary to effect a cure he concurs with the previous author, viz., three years. As to the third interrogatory he

remarks: "That not alone absence of all manifestations are indicative of a cure, but also the propagation of healthy children." To the question, Are the indications positive and reliable? he answers: "I think so."

Prof. W. H. Breaky, of the University of Michigan, in answer to the first question, says: "Yes, when appropriate treatment (which in the primary stage should be largely expectant) is begun early and intelligently continued, and varied to meet conditions." As the length of time required to obtain a cure he states: "It depends on the stage and condition, when treatment is begun, varying from two to four years, with conditional intervals for observation, and extension of time of treatment if recurrence of symptoms." Regarding the indications of a cure he remarks: "Absence of lesions of all kinds, and of all resulting symptoms and phenomena. Of course scars and ulcers may remain after a patient is practically 'cured.'" As to whether the indications are reliable and positive he makes the following statement: "Generally, as a rule, though complications of intercurrent disease may obscure the situation. And syphilis of brain and cord, whether interstitial or from gummata, renders indications less clear. But while syphilis lessens resistance to all other diseases, it is an error to attribute to results of it all illness that may follow an infection of syphilis."

Dr. Oscar Lassar, professor of dermatology, University of Berlin, in answer to the aforementioned questions, says: "Syphilis is curable. A patient should be under treatment as long as he shows symptoms, and at each attack some weeks more. Besides later on two or three courses, for the sake of precaution. The indications of a cure are no new appearances of manifestations, and these indications are generally as a rule positive and reliable."

Dr. William A. Hackett views the subject as follows: "Apropos the first question: In the majority of cases syphilis is curable, if the treatment is begun early and faithfully carried out. As regards the length of time necessary to effect a complete cure, from two to three years is required. Absence of all manifestation of lues and gain in bodily weight, or at least no apparent loss of weight, are the probable indications that an eradication of the syphilitic process has been effectually attempted." The fourth interrogatory he answers in the negative, as there is nothing positive in medicine.

From experience gained both in private and dispensary practice, the author believes that the syphilitic manifestations may

be brought to an absolute standstill by thoroughly bringing the system under the influence of mercury as early in the process as possible—that is to say, as soon as a positive diagnosis has been arrived at. Procrastination is to be deplored, and the physician should beware of dallying with such a destructive affection as syphilis is. The sooner treatment is begun, the more readily is the toxemia (and lues is nothing but a toxemia) neutralized and eventually combated, and tertiary or late manifestations prevented from making their appearance. Mercury should be our sole therapeutic agent to be employed in the early and late secondary stage, while iodine and its salts should form our main remedy during the tardive or tertiary phenomena.

Syphilis is, in the opinion of the author, one of the most amenable disorders extant, and if specific medication is administered for two years (with short intermissions) and iodic therapeusis for another year, the malady is finally made to depart without any ill consequences or untoward intercurrent effects springing from its own source. The only indications are absence of all symptoms and no appearance of new outbreaks thereafter. A course of specific medication for about two or three months several years after the disappearance of the morbid process is a very commendable precautionary measure and should be advocated by the practitioner most emphatically, and insisted upon. The above indications, however, are unfortunately not positive, as there is nothing prognostically positive in a human organism, once the nidus of a toxemic condition is coupled with gross pathologic processes in the tissues in the form of an increased proliferation of connective tissue, which is a characteristic morbid feature of the malady under consideration. Still, to judge from an extended clinical experience, it would seem that if three years have elapsed after the disappearance of the entire symptom-complex of this disorder, we are justified then in regarding the disease under complete subjugation and efficiently controlled.

In conclusion the author desires to say that in view of the above exposé of this subject, it readily lends itself to positive deductions, and in accordance therewith he ventures to formulate them as follows:

1. Syphilis is a curable affection, provided treatment is begun early and faithfully and persistently carried out.

2. At least three, if not four, years of continuous treatment is required to bring the morbid process under control, with all dangers of recrudescence eliminated.

3. The indications of the total cessation of the destructive condition consist of the absence of all manifestations and lesions for a period of not less than two years, a steady gain of bodily weight, or at least no loss of same, and the propagation of healthy children.

4. These indications are, at the present juncture of our knowledge of the prognosis of syphilis, unfortunately far from positive and reliable.

164 E. High Street.

PATHOLOGY OF THE DUCTUS BILIS.

BY BYRON ROBINSON, B.S., M.D.

The disease of the biliary ducts may be divided for description into three classes, viz.: (*a*) cholelithiasis; (*b*) cholangitis; (*c*) neoplasms.

Cholelithiasis—Anatomy.—The ductus bilis may be divided into intra-hepatic and extra-hepatic biliary channels. The intra-hepatic biliary ducts extend from the bifurcation of the ductus hepaticus, lying in the tissue of the portal fissure, to the hepatic margins. As the accompanying Roentgen-ray illustrations demonstrate, the intra-hepatic biliary ducts are numerous, of a considerable length and diameter. These ducts expand between the liver lobes like a tree or fan. Biliary calculus in the intra-hepatic ducts is rare, and alone rarely calls for an operation.

The extra-hepatic biliary ducts consist of the ductus hepaticus, ductus cysticus with its reservoir cyst (the cholecyst), and the ductus choledochus communis. Calculus mainly arises and plays its chief life rôle in the extra-hepatic biliary ducts. For practical purposes hepatic calculus arises in the cholecyst—gall-bladder—hence the well known terms cholecystitis calculosa. As the cholecyst is a bile reservoir, a governing or tension cyst is located adjacent, lateral, to the direct bile current, hence numerous disasters may occur from calculus in the cholecyst without interfering with the common bile stream which flows into the duodenum. The gall-bladder is an evagination of the ductus bilis. Matters are generally otherwise when a calculus becomes engaged in the ductus choledochus communis or ductus hepaticus.

The calculus may partially or completely obstruct the bile flow through the common duct or hepatic ducts, inducing obstruction and icterus. A curious feature in regard to hepatic

calculus is that though ten per cent of people have calculus, yet a small part of that number suffer from its possession. Practically hepatic calculus manifests no symptoms except when infection or inflammation of the bile channels exist. No doubt some subjects suffer from the passage of a foreign body through the ducts. I have posted bodies in which hepatic calculi were

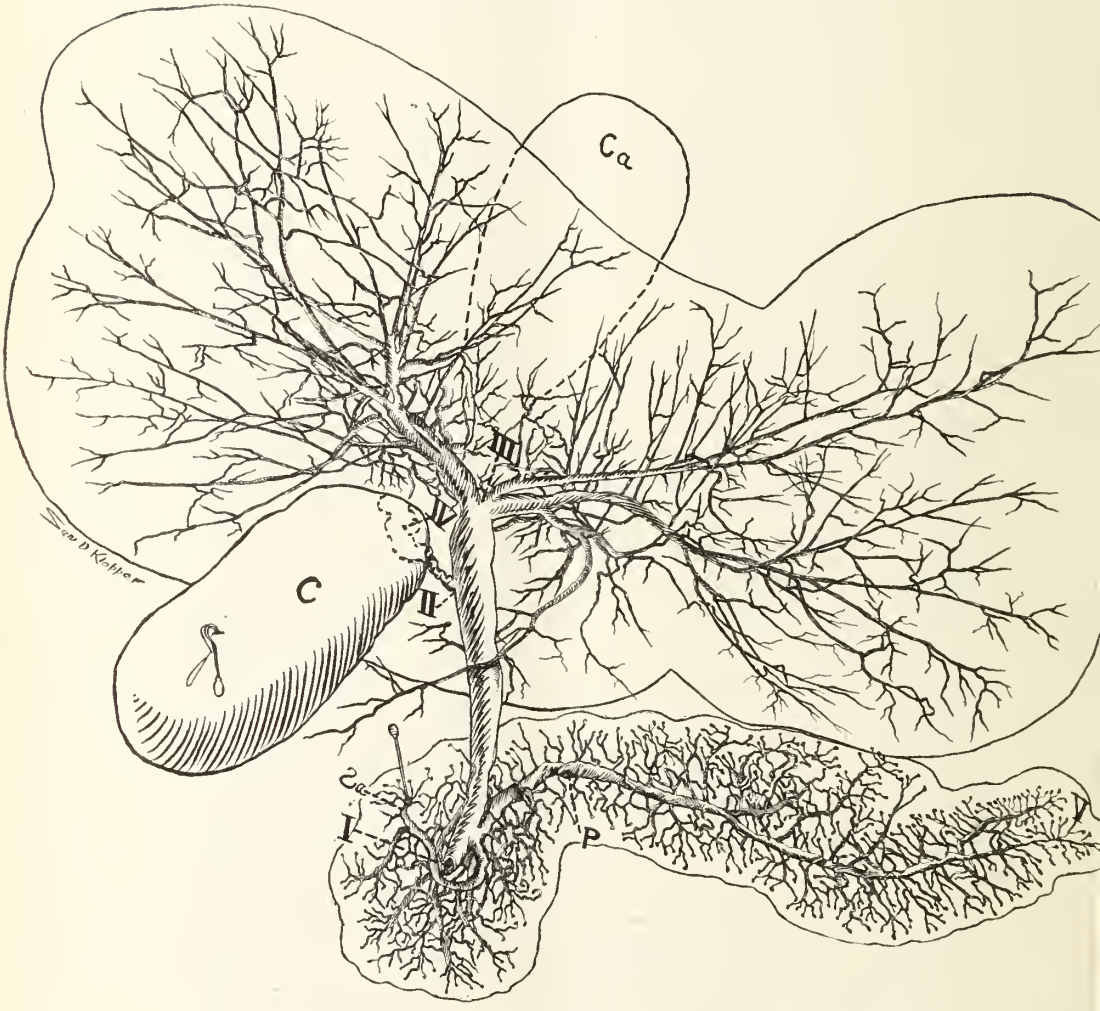

FIG. 1.—X-ray of the ductus bilis and ductus pancreaticus (Byron Robinson). The ductus bilis was injected with red lead mixed with starch, while the ductus pancreaticus was injected with celloidin mixed with red sulphide of mercury. I to II, ductus choledochus communis; II to IV, ductus cysticus; II to III, ductus hepaticus; *C*, cholecyst; *P*, ductus pancreaticus; *Sa*, ductus pancreaticus accessorius (Santorini). The liver and pancreas were *x*-rayed by placing the proximal surface of the liver on the plate. The liver presents a distal surface view with the cholecyst drawn distalward. *Ca* is the original bed of the gall-bladder. The pancreatic duct presents a view of its ventral surface. *Sa*, ductus pancreaticus accessorius.

found, yet neither patient nor doctor was aware of their existence. Hence hepatic calculi may give rise practically to no symptoms unless cholangitis exists. In fact it is probable that as a result of inflammation of the ductus bilis, through excessive, deficient, or disproportionate peristalsis, secretion or absorption in the biliary channels, the calculus is set in motion. By the disordered peristalsis of the bile channels the calculus is forced from its ensconced position of quietude to be tossed to and fro. Besides the calculus may become incarcerated in Hartmàn's pouch, the pelvis of the gall-bladder giving rise to

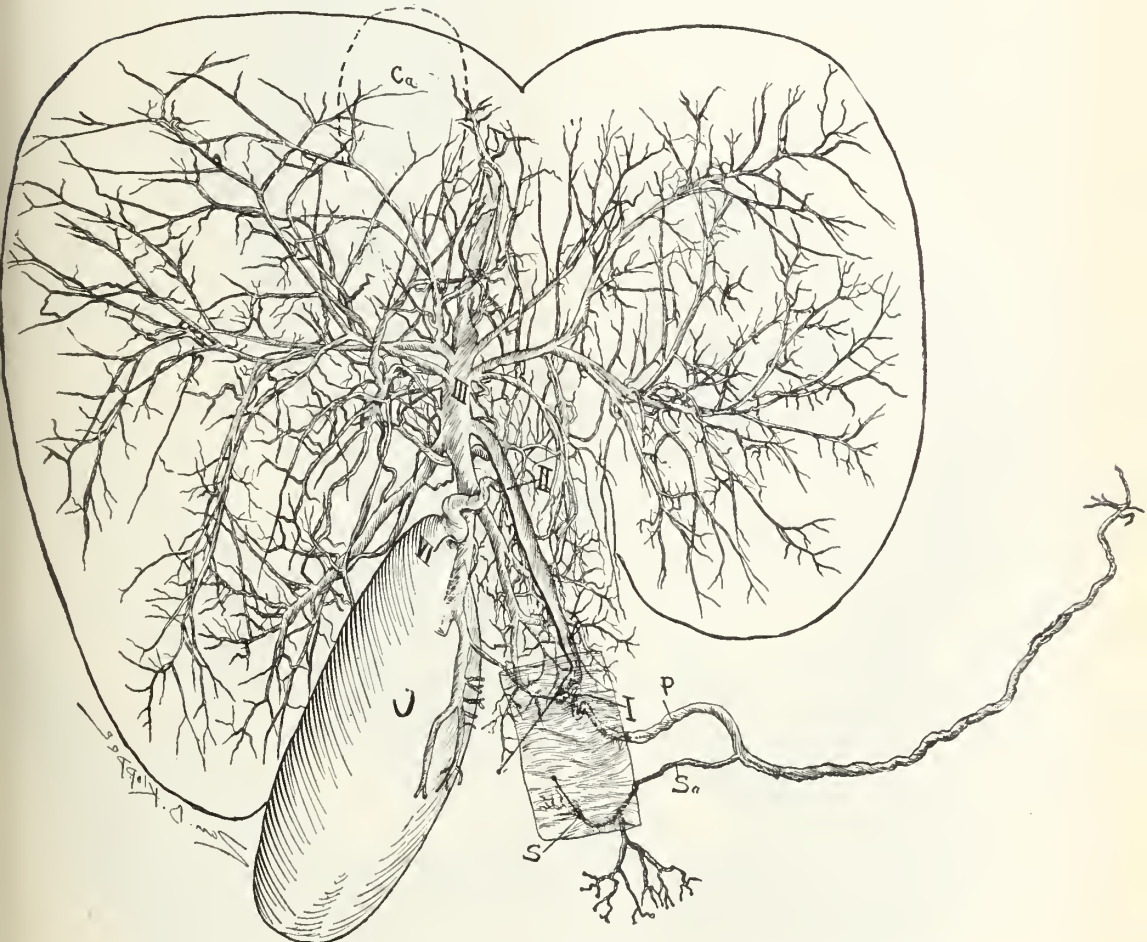

FIG. 2.—X-ray of the ductus bilis (Byron Robinson). I to II, ductus choledochus communis; II to IV, ductus cysticus; II to III, ductus hepaticus; *C*, cholecyst; *P*, ductus pancreaticus (Hofman-Wirsung); *Sa*, ductus pancreaticus accessorius (Santorini). One can observe dimensions, distribution, bifurcation, and diameter of the ductus bilis.

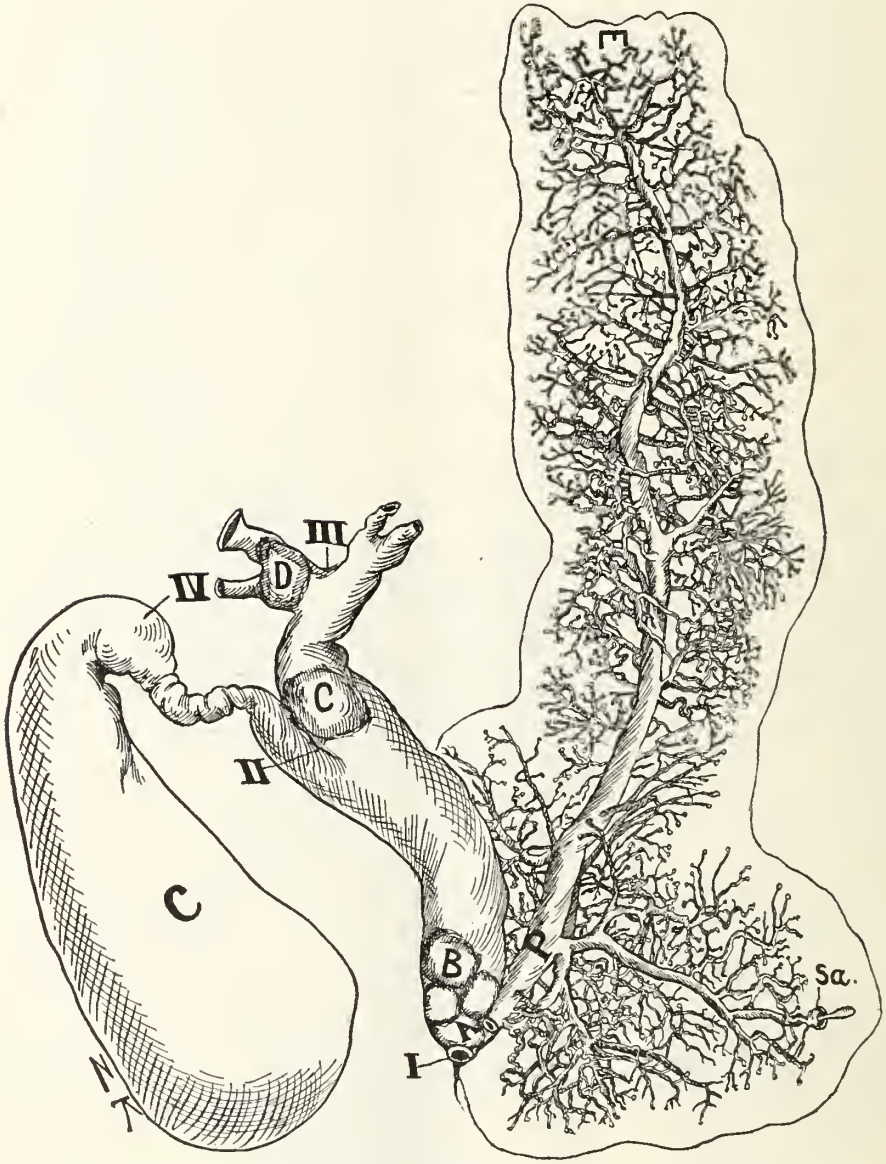

FIG. 3.—(Byron Robinson.) From post-mortem specimens. I to II, ductus choledochus communis, dilated to three-fourths inch in diameter and containing four hepatic calculi (*A, B*) in its distal end; II to IV, ductus cysticus, dilated to one-third inch in diameter, yet preserving in form six distinct valvulæ Heisterii; II to III, ductus hepaticus, dilated to one-half inch and containing a hepatic calculus; *C*, cholecyst, normal dimensions, containing no calculus; *P*, ductus pancreaticus (ductus Hofmanii-Wirsungii); *Sa*, ductus pancreaticus accessorius (ductus Santorini); *E*, left end of pancreas. The ductus bilis and ductus pancreaticus are characterized by spirality and irregularity of lumen. The lateral pancreatic ducts end in bulbs or vesicles. This specimen illustrates the facility with which infectious waves may travel from the channels of the liver to those of the pancreas, and *vice versa*. For the *x*-ray the ductus pancreaticus was injected with celloidin and red sulphide of mercury, while the ductus bilis was injected with red lead and starch.

the ball-valve joint of Courvoisier and Fenger. This condition occasions many obscure symptoms of relapses, recurrences, and seasons of quietude.

The cause of the formation of hepatic calculus is unknown. The chief theory extant is that catarrh (bacterial infection) of the ductus bilis, inducing an increased secretion of cholesterin from the lining epithelium of the ducts, gives rise to cholelithiasis. The chief infectious germ is the bacillus communis coli. The typhoid bacillus plays an important rôle. Whatever forces oppose the free bile stream and complete evacuation of the bile channels, or produce stagnation of the bile, induce calculus formation. Pregnancy perhaps favors cholelithiasis by checking liver massage by the diaphragm. Since cholesterin is the chief constituent of gall-stones the physiology of this subject should be studied. Some investigators think the epithelium of the gall-bladder is responsible for the excessive secretion of choles-

FIG. 4.—X-ray of ductus bilis and ductus pancreaticus of horse (Byron Robinson). I to II, ductus hepaticus. The horse has no gall-bladder. (The zebra, camel, and elephant have no gall-bladder.) H. W. (Hofman-Wirsung duct), ductus pancreaticus; *Sa*, ductus Santorini (ductus accessorius pancreaticus).

terin. The red pigmented salt known as bilirubin frequently combines with calcium to aid in the formation of gall-stones. Cholelithiasis is chiefly a disease of senescence. Twenty-five per cent of cholelithiasis occurs after sixty years of age. Females are attacked with cholelithiasis four times as frequently as males. The symptoms of gall-stone or cholelithiasis are pain in the right hypochondriac region, the proximal right quadrant, occurring at irregular intervals. The pains radiate through the abdomen and in the right subscapular region. Cholelithiasis produces gastric disturbances, as disordered peristalsis, vomiting, with disordered secretion and absorption.

OPERATION FOR CHOLELITHIASIS.

Some half-dozen years ago, when biliary surgery was becoming developed, operations for gall-stones began to be excessively frequent. In England the indiscriminate frequent operations were causing more deaths than medical treatment, as was shown by Dr. J. H. Keay in his excellent monograph on "Medical Treatment of Gall-stones." Many American surgeons followed the same reckless, indiscriminate operative methods. More rational views of cholelithiasis are lately becoming distributed by physicians who are specialists in this subject. Of four noted European surgical specialists in cholelithiasis, Reidel of Jena, I think, operates too frequently, and though one of the keenest and most progressive of surgeons he cannot expect the support of either internes or surgeons. Fink does not operate sufficiently often, as he considers the operation for gall-stones as *ultimum refugium*. The standpoint of biliary surgery as merely the last resort to save life is a mistake. Surgery of the biliary channels has a higher office, and that is to restore health and alleviate suffering. The most prominent surgical specialist in cholelithiasis to-day is Hans Kehr, of Halberstadt, Germany, and he is also the most conservative and discriminative in deciding what cases are to be benefited by operative intervention. Kehr operates only on about one-third of the cases of cholelithiasis presented to him for his opinion. He is placing the surgery of cholelithiasis on a rational basis. Mayo Robson, now of London, the most prominent English surgical specialist in cholelithiasis of to-day, is rather inclined to frequent operation, with apparent lack of faith in internal treatment. Herein, it seems to me, lies the mistake of many surgeons. The surgeon who thinks that every case of cholelithiasis sent to him must be operated on is certainly not a reliable surgeon. The case,

if no operation is deemed necessary, should be remanded to the internes. In surgery of the biliary ducts there should be a close and confidential, intimate, relation between the internist and surgeon—both need each other's support. There is an internal treatment for cholelithiasis as well as a surgical treatment, for those who do autopsies can demonstrate it. Internal treatment for cholelithiasis is summed up by the words "visceral drainage."

America's most eminent surgeon, Prof. Nicholas Senn, in his celebrated and instructive clinic has assumed a conservative or middle ground. Senn's keen and accurate powers of diagnosis enable him to discriminate as to existing pathologic conditions and escape the pitfalls of lesser lights. Weller Van Hook, a Chicago surgeon of merit and skill, occupies the golden mean in surgery of cholelithiasis, assuming the rational base that there is an internal as well as a surgical treatment for cholelithiasis. A. H. Ferguson has practically chosen the middle ground for years in series of excellent operations on the biliary channels. The time, in the march of surgery of the hepatic ducts, has come to establish a definite basis for operative intervention in hepatic calculus. Haphazard operations do not aid in the progress of biliary surgery. Surgeons must have standard rules, rational, appropriate indications for operative intervention.

Surgery of the biliary channels should be neither *ultimum refugium*, a last resort, nor merely an exploratory incision. I have watched with interest the surgery of the biliary ducts for fifteen years, and I am thoroughly convinced that there are two forms of treatment for cholelithiasis—a medical and surgical treatment. In the medical treatment of gall-stones it is not necessary to go to Carlsbad to drink the hissing sprudel direct from the fountain. There is no doubt at the so-called watering-places the patient can assume the most perfect anatomic and physiologic rest with the most freedom from business and family cares. The method I have used for almost a decade is what I term "visceral drainage." The sewers of the body are flushed, the visceral tracts are drained, the blood is relieved of its waste-laden products, and the cholangitis subsides. I adopt the following plan: The patient drinks eight ounces of half physiologic salt solution every two hours for six times daily, accompanied by an alkaline tablet.

Parke, Davis & Co. have manufactured for years for me NaCl tablets of 11 grains each (flavored) and an alkaline tablet

(consisting of Socotrine aloes, gr. 1/3; cascara sagrada, gr. 1/40; $KHCO_3$, gr. 1/3; $NaHCO_3$, gr. 1; $MgSO_4$, grs. 2). These I designate as the visceral drainage tablets.

1. The patient drinks eight ounces of hot water before each meal with one or one-half of one NaCl tablet and one alkaline tablet (more or less, as required for a daily bowel movement) placed on the tongue. Hot fluid is a favorable factor in visceral drainage, and it can always be secured at meal-times.

2. In the middle of the forenoon, middle of the afternoon, and at bedtime the patient drinks eight ounces of fluid of any temperature with one or one-half NaCl tablet, and one alkaline tablet placed on the tongue (more or less, as the tractus intestinalis is influenced). I continue this treatment for weeks, months, and the results are remarkably successful in cholelithiasis. The urine becomes clarified like spring water, and increased in quantity. The tractus intestinalis becomes evacuated regularly daily. The blood is relieved of waste material. The tractus cutis eliminates freely, and the skin becomes normal. The appetite increases. The sleep becomes improved. The feelings become hopeful. The sewers of the body are well drained and flushed. The treatment of gall-stones requires ample exercise, so that the diaphragm will play a vigorous rôle of liver massage, because at best the biliary stream is slow and of low pressure. A diet that will leave a large intestinal residue, inducing peristalsis, is commendable, as cereals, vegetables, and oils—all administered with ample fluids.

At the session of the International Congress of Military Surgeons, held in St. Louis recently, Detroit was selected as the next meeting place for the next annual convention, and the following officers were elected: President, Surgeon-General Walter Wyman, of the United States Public Health and Marine Hospital Service, Washington; vice-presidents, Major A. H. Griggs of the National Guard of the State of New York, Buffalo; Brigadier-General Robert M. O'Rielly of the United States army, Washington; Surgeon-General P. M. Rixey of the United States navy, Washington; secretary, Major J. E. Pitcher of the United States Volunteers, Carlisle, Pa.; and treasurer, Major Herbert A. Arnold of the National Guard of Pennsylvania, Ardmore, Pa.

THE MEDICAL AGE.

A Semi-Monthly Journal of Medicine.

EDITED BY FREDERICK W. MANN, M.D.

All communications regarding papers, reports, etc., should be addressed to the Editor of THE MEDICAL AGE, P. O. Box 484, Detroit, Mich.

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EDITORIAL ARTICLES.

FREE ALCOHOL.

There is probably no nation on the face of the earth that is suffering more in its financial and commercial enterprises from high-priced alcohol than the American. All European countries permit the use in arts and manufactures of an alcohol which has been denaturized—that is to say, made unfit for human consumption by the addition of certain noxious substances. The American medical and pharmaceutical professions are especially in need of cheap alcohol, as it enters so extensively into the preparation of the products they demand. Not only is every tincture and every extract which they use dependent upon alcohol for its preparation, but it enters largely into the manufacture of countless subsidiary necessities.

It is therefore the duty of the medical profession to support the Boutelle free alcohol bill now before Congress. As it is now, industrial alcohol and alcohol for beverages are treated alike, both being classed as distilled spirits and subjected to a tax of $1.10 on the proof gallon of 50-per-cent alcohol, and as commercial alcohol is 94 per cent this subjects the product to a tax of $2.17 per gallon. So the American manufacturer commences to compete with his European rival with alcohol costing him over $2.25 a gallon, while his European competitor uses a product costing 15 cents a gallon.

In a recent number of the *Scientific American* a writer records some uses to which cheap alcohol would apply, and some of the purposes for which it is used in countries where it is not taxed. It is a better fuel for the automobile than gasoline. It is preferable for domestic cooking and heating, and as an illuminant when used with the incandescent mantle it rivals the electric light. Alcohol enters into a thousand manufactured

articles, such as varnishes, lacquers, bronzes. It is used as a solvent in straw goods, in hats, and fine shoes. It takes one and a quarter pounds of alcohol to make one pound of smokeless powder, and the present tax doubles the cost of this commodity, and so increases public taxation. In the color industry, in woolen goods, in printer's ink, and in dyeing it enters largely, and many industries have been driven out of the country because of its dearness.

The automobile will probably never be satisfactorily propelled until alcohol is used for combustion purposes, and the doctor and the automobile will never be harmoniously united until this is brought about. There is abundant reason why we should advocate reform. The dangers to temperance can be easily compassed by certain wise and simple restrictions. The pharmaceutical trade may well say, "Give us free alcohol and we will beat the world."

EDITORIAL NOTES.

Long Life from Sour Milk.

Prof. Emil Metchnikoff of the Pasteur Institute is given credit for the following statement: "Sour milk contains a large bacillus remarkable for the great quantity of lactic acid it is capable of producing. This microbe does not exist normally in the human body and can be introduced with very great benefit to the health, as it preys on the hundreds of thousands of microbes which infest the large intestines. It has been noted that there is a great similarity between old age and disease. A study of certain diseases has proved that there is no difference between the mechanism of senile atrophy and that of atrophy caused by a microbe or poison; in fact, on the approach of old age a veritable battle is waged in the innermost parts of the body." We doubt very much if any one desires to live a hundred years if he is compelled to subsist upon a diet the chief ingredient of which is sour milk.

An Appeal for Brevity.

The great length to which medical articles are spun out has always been a thorn in the side of medical editors. The editor of the *Deutsches Archiv für Klinische Medicin* has recently

issued an appeal for brevity, saying that it is impossible for his journal to keep pace with the constantly increasing material; that in long articles that drag through several numbers readers lose interest. He also delicately hints that the length of an article is apt to be in inverse proportion to the age and experience of the writer. American writers, while not so prone to lengthy papers as are the Germans, might in the great majority of instances leave out several thousand words without in the least injuring their essays, and earn the gratitude not only of medical editors but of those who essay to read their contributions.

Allowance Made for Years of Practice.

The Illinois State Board of Health has recently adopted a plan whereby physicians of many years' standing will not have to pass so severe an examination in order to obtain a license to practice as more recent graduates. Beginning on the 1st of January, 1905, older practitioners are to be given five per cent upon the required average of 75 per cent for each period of five years of reputable practice. The justice of this measure is apparent, for there are very few practitioners of say ten or fifteen years' standing who could pass the examination now required by the various State boards without giving considerable time to postgraduate work. It is to be hoped that other State boards will adopt a plan similar to that of the Illinois board.

Municipal Supervision of Restaurants.

The city corporation of London has taken upon itself the supervision of the sanitary arrangements, storing, and cooking of food in restaurants. Certificates are granted by the Health Officer to proprietors who conduct their places properly, and nearly 1000 London restaurants have been inspected. The proprietors instead of resenting the inspection have welcomed the inquiry, and have been eager to secure the certificate of the corporation, which invites trade, as it is accepted as a guarantee that the food is wholesome and prepared with cleanliness. It seems too bad that our government is not paternal enough to adopt so excellent a system, which insures the use of good food and cleanliness in its preparation.

ITEMS AND NOTES.

THE German Red Cross Society has decided to erect a hospital at Irkutsk, Siberia.

A SERIOUS outbreak of smallpox has occurred in the French Canadian settlement of Malone.

YELLOW FEVER seems to be practically stamped out in southwest Texas and on the Mexican border.

THE Craig Colony for Epileptics, Sonyea, has been awarded a gold medal for its exhibit at the St. Louis Exposition.

IT is announced that a committee has been formed at Copenhagen to collect funds for the erection of a monument to Professor Finsen.

PROF. E. VON BERGMANN, of Berlin, has accepted an invitation to deliver an address before the French Congress of Surgery in November.

DR. ANITA MCGEE and her party of American trained nurses have been decorated by the Mikado for their service in the hospitals in Japan.

DR. WILEY, the chief chemist of the Agricultural Department, resumed his experiments on the effects of adulterated food with a class of twelve on November 1.

THE International Congress of Physiology recently concluded its sessions at Brussels, to convene again in 1907 at Heidelberg, when Professor Kossel will preside.

THE one hundred and fiftieth anniversary of the founding of King's College was celebrated by the trustees of Columbia University on Friday, Saturday, Sunday, and Monday, October 28 to 31.

AN International Congress on Tuberculosis will be held in Paris October 2 to 7, 1905. The president of the pathological section will be Dr. Lannelongue, and the social section, Dr. Landouzy.

Dr. Geo. Purviance, of the U. S. Public Health and Marine Hospital Service, died at Philadelphia on October 20. He was a graduate of the Jefferson Medical College in the class of 1867, and has been stationed in Washington for a number of years.

There were 2635 deaths registered in Michigan during the month of September, representing a death-rate of 12.7 per 1000 population according to the State census of 1904. This shows a slight increase over the preceding month, which had a death-rate of only 12.1, but is lower than the rate for September, 1903, which was 13.4.

The Pennsylvania Railroad has just adopted a plan for providing first aid to the injured. It consists of equipping all baggage, mail, express, construction, and wrecking cars, terminals, yard offices, shops, and important stations with stretchers; and locomotives, yard offices, shops, and important stations with "first-aid boxes."

The foundation of the German Physiological Society is one of the outcomes of the meeting of German scientists and physicians recently held in Breslau. Professor Schenk of Marburg is president, and Professor Hurthle of Breslau treasurer, of the new society. The first meeting of the society will be held at Marburg at Whitsuntide, 1905.

The Mississippi Valley Medical Association at its recent annual meeting at Cincinnati elected Dr. Bransford Lewis, of St. Louis, Mo., president; Dr. Frank Norbury, of Jacksonville, Ill., first vice-president; Dr. J. S. Carstens, of Detroit, second vice-president; Dr. S. C. Stanton, of Chicago, treasurer; and Dr. Henry Enos Tuley, of Louisville, secretary. Indianapolis was selected as the next place of meeting.

The Interstate Commerce Commission reports that in the year ending June 30, 1903, the number of persons killed by railroad accidents in the United States was 9840, and the number injured was 76,553, making a total of 86,393 casualties. One employee in every 364 was killed, and one in every 22 was injured. These statistics compare favorably with those given by British authorities. England had 22,152 miles of railway in 1903, and the casualties in the United Kingdom per 1000 miles were 841.6; the United States had 202,471 miles of railway, and the casualties per 1000 miles were 268.6.

A BILL was passed at the last session of the Georgia State Legislature creating a commission for the study and investigation of tuberculosis in that State. The commission will be composed of one physician from each congressional district and ten from the State at large. The commissioners are to investigate the prevalence of the disease in the State, and to suggest such measures as may tend to check its spread and safeguard the public against infection. The members of the commission are to be appointed by the governor.

THE number of registered physicians in the Russian empire, according to an exchange, is now 21,827, of whom 737 are women. All but 2659 reside in European Russia. Siberia has 788, the Caucasus district 1224, and the Central Asia possessions 459. The last restrictions have been removed from the medical career for women, and the graduates of the woman's medical college at St. Petersburg now rank in every respect with the graduates of the other medical schools of the empire.

THE superior jury of awards of the Louisiana Purchase Exposition has awarded to Dr. S. A. Knopf, of New York City, a gold medal for his work on tuberculosis. The exhibit consisted of Dr. Knopf's English, French, and German text-books on tuberculosis, his contribution on tuberculosis in the Twentieth Century Practice of Medicine, his various addresses and lectures, and his international prize essay, "Tuberculosis as a Disease of the Masses and How to Combat It," with translations in eighteen languages.

THE new Vienna hospital, of which the foundation stone was recently laid by the Emperor of Austria, will consist of forty separate buildings, eight of which will be devoted to offices and residences for the staff. Each of the clinical buildings will have a roof-garden, and each patient will be allowed 1030 square feet of space. The hospital will have 2300 beds. The operating-rooms will be of an entirely new type, and in the clinics for infectious diseases the patients will be separated from the lecturer and the students by a glass partition. The entire cost of the hospital, says an exchange, will be between $7,000,000 and $8,000,000.

AN exchange says the largest part of a doctor's equipment is his books. Physicians usually keep more closely up with the procession, from the view-point of books, than lawyers. The

doctors have to do it, because much of their reputation among their associates depends upon the accuracy and the modern finish of their knowledge. A lawyer can more easily dispense with new law books than a doctor with the late medical books. An up-to-date doctor has a much more expensive library, as a rule, than a minister, and it is almost as expensive as a lawyer's, the difference being that a lawyer's whole equipment is books, while a doctor must have a laboratory and a full complement of instruments.

At the recent Congress of Otology at Bordeaux, M. Delie read a paper upon "Tobacco and the Auditory Sense." Tobacco, he said, exercises a direct and selective action upon the auditory nerve, and nicotine brings about circulatory troubles owing to its exciting action upon the great sympathetic. It also gives rise to, or stimulates, a trophoneurosis which ends in neuritis of the auditory nerve. Tobacco should be used in moderation, and practitioners should warn patients in whom there is already auditory trouble that its action is especially harmful in their case. In persons who are already suffering from arteriosclerosis, or who have a family history of such a condition, it ought to be forbidden, and all the more if they are comparatively young.

Public Health and Marine Hospital Reports state that the following extract concerning plague haunts in Bombay is quoted from a report by a delegate commissioned to inquire into the matter. He reports that "in a room the floor space of which was 8 x 10 feet there were four fires burning—one in each corner—for four separate families occupied this spacious room, one family living, sleeping, and cooking in each of the several corners." Thinking that surely here the maximum possible amount of overcrowding had been reached, he was shown, to his amazement, a room of exactly the same area where he was told by his guide that six families lived. By means of a bamboo framework suspended from the beams, and hanging about three feet above the floor, space was made for two additional families, and in this way many other chawls in that gully were made to accommodate six families. The doctor who attended the commissioner added that some of the families at times entertained visitors during the rainy season. These were shown as municipal chawls. That conditions such as are described above do not prevail in Bombay alone must be gathered from the great epidemic of plague now prevailing at Surat, a town and port 200 miles north of Bombay.

NEW PUBLICATIONS.

DISEASES OF THE NOSE, THROAT, AND EAR AND THEIR ACCESSORY CAVITIES.

As measured by the popular demand on the part of students and general practitioners, Dr. Bishop's book on "Diseases of the Nose, Throat, and Ear" seems to have the position of greatest popularity. The third edition of this work has just appeared. It is considerably enlarged and revised to date, so as to include most of the new features of value that have appeared during the past two years. The startling color work of the lithographic plates is still as brilliant as in the earlier editions. There might be considerable toning down in this respect, to bring these plates closer to the actual appearance. On the other hand a number of new cuts of anatomical specimens have been introduced which considerably enhance the value of this over previous editions. The book is certainly a great credit to its author and deserving of the popularity which it has had.

Disease of the Nose, Throat, and Ear and Their Accessory Cavities. By Seth Scott Bishop, M.D., D.C.L., LL.D., author of the "Ear and Its Diseases," Honorary President of the Faculty and Professor of Diseases of the Nose, Throat, and Ear in the Illinois Medical College; Professor in the Chicago Post-Graduate Medical School and Hospital. Third Edition, Thoroughly Revised and Enlarged. Illustrated with ninety-four colored lithographs and two hundred and thirty additional illustrations. Philadelphia: F. A. Davis & Co., 1904.

VISITING LISTS.

The time approaches for the purchase of new visiting lists. Among the many offered for us, one or two old and well-tried examples should be remembered. Blakiston's Physician's Visiting List now makes its fifty-fourth annual appearance. It is replete with useful tables and convenient methods of keeping accounts. The Medical Record Visiting List exhibits many excellent and convenient features and is a compendium of useful information.

The Physician's Visiting List for 1905. Philadelphia: P. Blakiston's Son & Co.

The Medical Record Visiting List or Physician's Diary for 1905 New York: William Wood & Co.

A TEXT-BOOK OF HISTOLOGY.

The writer has aimed in this volume to supply the student with a practical and satisfactory text-book for use in connection with laboratory work. The chapters on technique and staining are admirable examples of clear and concise statement, and the chapters dealing with the histological elements are extremely lucid, and are most amply illustrated by a very superior lot of cuts. This manual is bound to attract the patronage of those who may be seeking for a laboratory manual.

A Text-book of Histology. By Frederick R. Bailey, A.M., M.D. New York: William Wood & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Strictures of the Male Urethra.

A. Ravogli (*Louisville Monthly Journal of Medicine and Surgery,* November, 1904) says that urethral strictures are affections localized to tracts of the mucous membrane and of the submucous layers of the urethra; they often result from gonorrhea, not rarely from trauma or traumatic urethritis.

The effective cause in the production of the strictures is found to be due to sclerotic changes of the connective tissues, the result of the chronic infiltration. They form a scar, which, retracting the tissues, causes the narrowing of the lumen of the urethra.

The author maintains two distinctions: (1) Wide strictures, which, although soft and succulent and not affecting the dimensions of the urethra, are the cause of maintaining constant irritation; (2) narrow or organic strictures, formed by hard retracting tissue, with a tendency to constantly narrow the caliber of the urethra.

The strictures deserve some attention, according to the portion of the urethra they occupy.

In reference to the etiology, only the strictures produced by trauma or by gonorrhea are considered. In some cases both causes may act together, as happens in the breaking of a chordee, or in the injudicious use of instruments.

In reference to the pathogenesis, the process is illustrated by that which occurs in the conjunctiva in the case of a gonorrheal ophthalmia. The gonococci have a tendency to make their way deep into the subepithelial layers, maintaining a constant irritation, causing infiltration and proliferation of the connective tissues of the cavernous urethra. In consequence this sclerotic process is not limited to the mucous membrane alone, but goes deep into the connective tissues. A chronic inflammatory infiltration of the mucosa of the urethra is the starting-point for the formation of the stricture. The presence of a few drops of urine retained by the stricture has some influence in maintaining and increasing the inflammatory process.

The shape of the strictures is considered as linear or annular,

and at other times as tortuous and irregular, formed by an irregular mass of cicatrix.

He refers to the gross and minute anatomicopathological alterations as found in the cadaver, and from them shows the difference between the wide and the organic or narrow strictures.

The symptoms which lead to ascertaining a stricture in the urethra are: some suggestive, others subjective, and others objective or physical.

Suggestive symptoms of stricture are a long-standing gleet, the presence of shreds in the urine, the irritability of the bladder, revealed by frequent and irregular micturition. In the sexual act the semen is quickly discharged and then dribbles out of the urethra. In many cases the patients complain of diminution of the sexual appetite.

Subjective symptoms are: the changes in the stream of the urine, the reduced caliber, and the lack of projection. In some cases micturition may be painful. The last drops of urine retained by the stricture come out after urinating; this compels the patient to make an effort to expel them, or his clothes become wet with urine.

The bladder may be affected with spasmodic pains, and sometimes it may result in vesical retention of the urine. Sexual neurasthenia is often the result of the stricture.

The objective symptoms are obtained by the instrumental exploration of the urethra, which is done with an ordinary steel sound, or better with an olive-shaped one; the instrument is introduced without difficulty, but in withdrawing the instrument it is grasped by the stricture. When the caliber is affected, then the sound meets with the obstacle in the introduction. The stricture can be located, measured, and sized by means of the urethrometer.

The author asserts in reference to the prognosis that the narrow strictures of the urethra are diminishing in frequency, due to the more rational treatment of gonorrhea.

In reference to treatment he relies a great deal on gradual dilatation, for which he employs Kollman dilators associated with irrigations of the urethra. In narrow strictures he finds electrolysis of great value, to dissolve the fibrous tissues and dilate the urethra.

In obstinate cases, when dilatation is of no value, urethrotomy has to be resorted to. For the urethrotomy of the anterior

urethra the author has a special knife which he uses through a urethroscope. In this way the place to be cut can be seen without fear of cutting where it ought not to be cut. In rare cases the external urethrotomy is the only remedy.

Yet all these means—dilatation, electrolysis, urethrotomy—will be of only temporary relief unless sounds are constantly introduced in order to maintain the dilatation and to reduce the thickness and the hardness of the strictured point of the urethra.

Gastric Ulcer.

H. Cabot and G. Badger (*Boston Medical and Surgical Journal,* Sept. 8, 1904) draw the following conclusions in regard to the surgical treatment of gastric ulcer: (1) Perforating ulcers of the stomach. (2) Bleeding ulcers in which the hemorrhage either cannot be controlled by medical means, or having been controlled tends to recur, thus placing the patient's life in immediate danger. (3) Cases with a long history of dyspepsia culminating in hemorrhage, after the hemorrhage has been controlled by medical means and the patient put in proper condition for operation. (4) Cases of intermittent, recurring hemorrhage which, though individually small in amount, tends by its persistency to produce a profound anemia. (5) Cases of chronic dyspepsia, without dilatation, which fail to yield to proper medical treatment. (6) Cases of chronic dilatation of the stomach which fail to yield to medical treatment and are not due to a general visceral ptosis.

The Role of the Prostate in Affections of the Urinary Tract.

A. L. Wolbarst (*Medical Record,* Oct. 29, 1904) says that the prostate, though a sexual organ in health, is essentially a urinary organ in the diseased state.

Urinary symptoms are most often directly due to prostatic disease.

Any pathological lesion of the prostate which increases its size favors interference with the urinary stream to a greater or less degree.

Inflammation of the prostate is always accompanied by urinary symptoms. The genital symptoms are least marked.

In reference to gonorrhea, the prostatic urethra is the most

important portion of the urinary tract; it is the favorite seat of chronic urethritis; it is the medium over which the inflammation travels from the urinary to the genital tract.

The prostate is solely responsible for the important urinary conditions which result as a consequence of its senile hypertrophy.

Prostatic concretions may lodge in the bladder and act as the nucleus of larger vesical calculi.

Chronic contracture of the bladder neck, neuralgia of the prostatic urethra, prostatic tuberculosis, malignant prostatic disease, prostatic cysts, and trauma of the organ, are all made evident by their effect on the urinary function.

Lastly, these numerous urinary affections justify the consideration of the prostate as a urinary organ, second only to the kidneys in importance.

Fibromyoma of the Abdominal Wall in Women.

D. Stein (*British Medical Journal,* Oct. 8, 1904) reports a case where a woman aged thirty, who had borne four children, was operated on for the removal of a tumor of the abdominal wall associated with the sheath of the rectus; it was the size of a fist. It was made up of fibrous tissue and plain muscle cells; its vessels, as in uterine fibroid tumors, had thick muscular coats. Doleris and Mangin have recorded an example of fibromyoma of the abdominal wall where recurrence followed operation. Stein himself operated on two sisters for the same disease. The first operation was performed on a woman aged thirty-seven a year after she had undergone ovariotomy. A firm, solid tumor, as big as a hen's egg, was enucleated from between the right obliquus internus and transversalis. The other sister underwent operation for a rather large tumor over Poupart's ligament connected with the oblique (? external). Recurrence took place, and half a year later a tumor as big as a fist was removed. There was reason for believing that a piece of the growth was left behind at the first operation, so that there was no true recurrence. All the three tumors removed by Stein were made up of white fiber and plain muscle cells. This form of new growths has never been found in males, who rarely, as compared with women, suffer from pure fibroma of the abdominal walls. The plain muscle cells are probably derived from the coats of the vessels in the abdominal muscles. Schauta (*Centralbl. f. Gyn.,* No. 9, 1904) removed a pure fibroid weighing 2½ pounds from

the abdominal wall of a woman aged twenty-eight, who had borne two children, the youngest eleven months old. The peritoneum had to be opened and resected.

Death Due to Hanging with a Tracheotomy Tube in Position.

Bertelsmann (*Gericht. Med.*, Bd. 26) reports a case of a woman on whom a tracheotomy was performed for laryngeal carcinoma. The woman shortly afterward hung herself, the rope being in such a position that the noose was over the entrance of the tube, leaving it free, a space the width of the hand being between the tube and the cord. From all appearances death was speedy and painless. This case substantiates the experimental fact that death may be due to hanging when all interference with breathing is excluded, and that the compression of the cervical blood-vessels is the cause of the immediate insensibility and ensuing death.

The Diagnosis of Cancer of the Stomach.

Arpad G. Gerster (*Medical Record*, Oct. 29, 1904) says that when in a clearly progressive case of intractable disorder of the stomach the local and general symptoms, conscientiously collected and weighed, strongly justify the suspicion of cancer, diagnostic laparotomy should be considered not only admissible but obligatory.

MEDICINE.

Cardiac and Vascular Complications and Sequels of Typhoid Fever.

W. S. Thayer (*Bulletin of the Johns Hopkins Hospital*, October, 1904) says that typhoid fever is a disease which from a clinical standpoint is often associated with symptoms suggestive of grave weakening of the heart muscle. These changes, whether due primarily to direct action of the typhoid poison on the heart or to impaired nourishment from vasomotor paralysis, result, in a considerable portion of cases, in a temporary insufficiency of the mitral valve, as indicated by the appearance of apical systolic murmurs, which are not infrequently transmitted

to the axilla. These murmurs develop especially at the height of the disease, during the latter part of the first and in the second, third, and fourth weeks, and disappear usually with convalescence. Sometimes, however, they may persist.

Over one-fifth of old typhoids in whom, during their illness, a systolic apical murmur was heard, showed on subsequent examination evidence of organic disease.

The average systolic blood-pressure (Riva-Rocci) was higher in every decade among the old typhoids than in healthy individuals who had never had the disease.

The radial arteries were palpable with strikingly greater frequency in the old typhoids than in healthy individuals of the same age who had never had typhoid fever.

Endocarditis, while not a common complication of typhoid fever, is probably more frequent than generally supposed. It was present without being suspected in three out of ninety-five cases coming to necropsy at the Johns Hopkins Hospital, while in three further cases, out of the remaining 1363, the clinical symptoms suggested its presence.

In the three cases discovered at necropsy the lesion was due to a secondary mixed infection—in two instances, staphylococcus aureus; in one, staphylococcus albus. It is not impossible that endocarditis is more frequent than indicated by these figures. Out of 188 old typhoids, eight showed mitral insufficiency, one aortic insufficiency, one possible mitral stenosis.

Pericarditis is an unusual and unimportant complication of typhoid fever. Three instances only were noted in 1458 cases.

Phlebitis and venous thrombosis is a frequent complication of typhoid fever, occurring in over 2.6 per cent of the author's cases.

The onset occurs usually in the third week or later, and is in most cases associated with fever, leucocytosis, and local pain. Not infrequently the fever and leucocytosis may precede the localizing symptoms.

The complication was ushered in by or associated with chills in 28.9 per cent of his cases.

Chills otherwise unexplained occurring during the latter part of typhoid fever or in the early stages of convalescence, especially if associated with a leucocytosis, should always suggest the possibility of a developing phlebitis.

The phlebitis is, in the great majority of cases, localized in vessels of the lower extremity, especially on the left side, and

is particularly frequent in the femoral veins—about one-half of his cases.

Thrombosis of the iliac and femoral veins is always a serious complication. Although the immediate dangers—gangrene, extension of the thrombus, pulmonary embolism—are not great, the after-results are often grave.

In thrombosis of the femoral or iliac vein the affected extremity is always considerably and permanently enlarged, and there is usually more or less persisting disability—extensive varicosities, often resulting in ulceration; marked weakness of the limb; frequent cramps in the muscles, especially at night and after overexertion.

Arteritis and arterial thrombosis is a more frequent complication of typhoid fever than is generally recognized.

This complication appears to be especially common in the cerebral vessels, although it may occur in the extremities.

The onset may occur at the height of the disease, but is commoner in the third week or later. As in the case of phlebitis, the attack is often ushered in by fever and leucocytosis.

In the extremities arterial thrombosis is commonly followed by gangrene; in the cerebral vessels by hemiplegia.

Arteritis in the extremities may be associated with partial parietal thrombosis, from which nearly a complete recovery may occur. In one of the author's instances the patient, a year and a half after his fever, showed characteristic symptoms of intermittent claudication.

A survey of our pathological material would suggest that typhoid fever may be a not infrequent cause of focal arteriosclerotic changes.

In 21 out of 52 cases in which notes upon the condition of the aorta were made there were evidences of fresh endarteritis.

In 13 out of 62 cases in which the condition of the coronary arteries was recorded like changes were found.

This idea is further supported by the remarkable frequency with which sclerosis of the peripheral vessels was found in old typhoids.

While the deleterious influence of typhoid fever upon the cardiovascular system is not as great as that of acute rheumatism, yet through the unfortunate frequency of the disease in this country it is probable that post-typhoid cardiovascular defects are not uncommon. It would be wise for the practicing physician to bear this in mind, and wherever possible to keep his typhoid patients under observation for several years following the disease.

Influence of Laboratory Feeding on Infants.

The influence of laboratory feeding was studied by M. Ladd (*Archives of Pediatrics,* October, 1904) on 216 infants with diseases of the gastroenteric tract, the great majority of which were cases of fermental diarrhea and ileocolitis. The acute cases were ill on the average seventeen days, and the chronic cases 3.2 months, before they were brought to the clinic for treatment. They were kept upon the laboratory milk for lengths of time varying from one to thirty-one weeks.

As an aid in comparing the influence of the feeding upon infants of different ages and stages of development the nutrition of each infant at the beginning and at the end of treatment was judged by the estimation of its weight development. This was calculated from the weight index, which is simply the ratio of the weight of a given infant to the weight of the average normal infant of the same age. Judged by this standard over 50 per cent of the cases had a weight development of only 40 to 70 per cent when first seen. As a result of the treatment the series is divided into four groups.

All the cases in the series were sick infants, and the results are not to be compared with those obtained in the feeding of average healthy infants.

The infants were fed upon appropriate modifications of laboratory milk, usually beginning with very weak whey-cream mixtures. This milk was administered within twelve to eighteen hours after the first visit, and was gradually increased in strength. In one-half the cases there was no initial loss in weight following this method; in 87 per cent of the cases the initial loss was less than one-half pound (248 grammes).

Rheumatism.

The term muscular rheumatism, according to J. Schrieber (*Medical Record,* Oct. 15, 1904) should be dropped in the interest of clearness and simplicity, and the unqualified term rheumatism substituted for it.

"Rheumatism" should be understood as meaning all the affections produced by rapid changes of temperature, in the structures attached to the limbs, the periosteum, and in fibrous membranes.

Those disposed to rheumatism do not from a prophylactic standpoint need to dread uniform cold, even if intense, but rather

warmth, especially that caused by muscular effort, suddenly followed by rest and cooling off.

The most rapid and reliable remedy for recently acquired rheumatism is muscular exercise. The patient should boldly perform the movements that cause pain. Articular rheumatism should of course be carefully excluded.

Chronic rheumatism can be cured only by mechanicotherapeutics, in which active and passive movements play the chief rôle.

The clergy, school-teachers, and foresters should add this simple doctrine of muscular rheumatism to their stock of hygienic lore, in order that they may be able to instruct the people in regions without physicians and so preserve many from serious illness.

The Chemical Pathology of Gout.

Walker Hall (*British Medical Journal,* Sept. 24, 1904) says that the endogenous purins increase by the administration of sodium salicylate, and this increase does not arise from excessive cell destruction, but probably from diminished destruction of already formed uric acid.

The exogenous purins are metabolized by gouty patients almost as well as by normal individuals, any slight retention being due to increased capillary pressure and subsequent slowing of the lymph stream, and not to the formation of abnormal compounds.

The endogenous purin in gouty individuals may possess peculiar affinities and combine with abnormal products of proteid metabolism.

The presence of constipation in gouty patients is accompanied by an increased output of uric acid, this excess, however, apparently arising from diminished destruction of the formed uric acid.

The Influences of Peripheral Nerve Irritation upon Diseases of the Skin.

G. W. Meachern (*British Medical Journal,* Oct. 15, 1904) says that ever since the introduction by Leloir of the term "dermato-neurosis" the influence of the nervous system upon the cutaneous has been recognized. Trophic disorders of the skin are well known, but local irritation of terminal peripheral nerve filaments has not been so widely credited with any special influ-

ence upon the production of cutaneous diseases. Irritation proceeding from the cranial nerves—such as the ocular and the dental branches of the fifth—appear to possess an appreciable influence over the progress of certain forms of alopecia areata. The "dental theory" propounded by M. Jaquet affords an instance in point. Errors of refraction have also been found to be associated with some kind of alopecia by Pernet and Whitfield. Is there any ground for believing that dental irritation plays a really important part in the production of infantile eczema? Not much. The appearance of herpetic eruptions upon areas of the skin which have been injured or in which the nerve filaments are irritated—as far as cuts, etc.—is frequently seen. Gaucher has considered that this is due to the contusion of minute terminal nerve filaments. Lichen planus is also sometimes met with in the vicinity of old fractures, or in scratch marks. "Trophic influence" cannot always be brought in as an explanation. Conditions of "nervous erethism" are often responsible for cutaneous disorders.

THE THERAPEUTIC VALUE OF SUPRARENAL GLAND PRODUCTS.

In a paper with the above title, read before the London Therapeutical Society, J. G. Duncanson (*Lancet,* October, 1904) gave his experience of the uses of adrenalin and suprarenal extracts in general practice. After a brief résumé of the physiological effects of suprarenal extract as described by Schafer and Oliver, he enumerates the principal preparations on the market and gives his results of determinations of their reducing power to Fehling's solution, which he regards, following Aldrich, as a measure of the quantity of active principle contained in them. He has used the various preparations locally in a variety of conditions, for most of which the value of the drug is well established—among others, in nasal and aural diseases, and in epistaxis and other forms of hemorrhage. He has also found it of great use locally in catheterization, in the pain and strangury of acute gonorrhea, and in the hematuria due to enlarged prostate. He has given it internally in many conditions, and records a case of malaria with hemoglobinuria in which benefit was observed as a result, although the patient eventually died. In hemoptysis he found that its use was not beneficial. This is hardly to be wondered at, since many local styptics which act by contracting the vessels when given internally naturally tend to increase the hemorrhage by raising the blood-pressure.

Biology of Putrefaction.

Gottlieb (*Archiv f. Hygiene*, Bd. 51) isolated from putrefying normal meat two anaerobic spore-bearing bacteria, either one of which is capable of breaking fibrin up into its component parts. The one, bacillus carnis saproginis, breaks up the fibrin with a marked production of hydrogen and ammonia; the other, clostridium carnis fœtidum, forms principally carbon dioxide. In neither instance is methane formed. These two organisms seem to be the common factors of putrefaction in cadavers. In contradistinction to the above named organisms the author shows that the proteus group does not cause putrefaction of fibrin.

Three Cases of Tumors in and on the Stomach.

Miodowski (*Virchow's Archiv*, Bd. 173) first examined a stomach of a woman fifty-one years of age who died of a severe hemorrhage due to a myoma of the stomach, this patient having previously been operated on for uterine myoma. Secondly, a carcinoma of the stomach with metastases extending along the entire intestinal tract. Thirdly, a large sarcoma of the bursa omentalis the size of a man's head; this patient was operated on for pancreatic cyst, and the diagnosis was not made until after a post-mortem.

Prevention of Coagulation of the Blood.

Branz (*Archiv f. exper. Path. und Pharm.*, Bd. 49) extracted a substance from the lips of leeches which he calls "herudin," and which possesses the property of preventing the coagulation of the blood. Herudin is soluble in water but insoluble in alcohol, and in the dry state it is stable. The author expects in a short time to be able to place this preparation on the market.

THERAPEUTICS.

The Treatment of Local Infections by Pure Oxygen Gas.

At the Royal Academy of Brussels, Professor Thiriar (*Medical Record*, Oct. 29, 1904) recently presented a method of treating local infections by pure oxygen gas, which has the valuable property of causing the attenuation to a great degree of bacteria and of destroying their toxins by oxidation. The oxygen is kept

under a pressure of 120 atmospheres in a metallic case. One end of the case is fitted with an adjustment closed by an easily opened valve. To this is attached a rubber tube, terminating in a fixture to which can be fastened a simple Pravaz needle, or a small glass or rubber cannula. In treating a furuncle one first regulates the flow of oxygen by plunging the Pravaz needle in aseptic water. The bubbling of gas in the water enables one easily to estimate the rapidity and quantity of the flow. After having previously rendered the region aseptic, injections are made into the furuncle, the needle being plunged successively into the summit and base of the tumor. At first when the oxygen penetrates the indurated tissues it produces a sharp pain due to distention. Almost immediately, however, the painful symptoms lessen and soon entirely disappear; at the same time the swelling diminishes and disappears. In three or four days the furuncle no longer exists, and the rapidity of the cure is no greater than its permanence.

Carbuncular infections are circumscribed or diffuse. When they are circumscribed the Pravaz needle is used, introduced at different points in the swollen area. The current is allowed to run for about half a minute in each place, or until light digital pressure gives the sensation of crepitation, indicating that the carbuncle is, as it were, isolated in an atmosphere of oxygen. When suppuration is clearly established and when sloughing tissue and pus are eliminated by different openings, the glass cannula is used, which passes to the center and into the ramifications of the tumor, and a comparatively strong current is allowed to run for about a quarter of an hour. The treatment is given every day for a week, and by this time the constitutional symptoms have abated and the pus has disappeared. When the carbuncle is diffuse it is necessary to begin by removing and carefully dissecting out the necrotic tissue, and then to direct a strong current into the center of the tumor for about ten minutes. After this a weaker current is continued for twenty-four hours. Five or six days is necessary to insure a complete cure.

Finally abscesses of the breast are cured by this method with incredible rapidity. The technique is simple. After disinfection, an incision is made to evacuate the pus. After irrigation by peroxide of hydrogen, a current of gas is passed for about half an hour. If the abscess is large a permanent current is passed for twenty-four hours. After this time suppuration is retarded, and in two or three days the cure is complete.

Treatment of Cold Abscesses and Sinuses in Tuberculous Bone Lesions.

V. P. Gibney (*Journal of the American Medical Association,* Oct. 29, 1904) says that the early recognition of cold abscesses will enable one to dissipate or to nip them in the bud. When they are present at the time the cases come under observation, treat them with indifference so long as they do not interfere with the proper adjustment of good protection apparatus. If they are in the way, or if they show a disposition to burrow and encroach on parts that it is desirable to keep free from such invasion, resort to aspiration and make cultures in order to determine their virulency. If aspiration fails, rely on incisions under rigid asepsis, large enough only to permit evacuation of the contents, and refrain from the introduction of chemicals. Close the wound by suture under the same rigid asepsis. When the abscess lies directly over a bone focus that can be easily reached, make the incision large enough to remove the focus, and at the same time permit removal by curette or scissors of the lining of the sac and all necrotic tissue contiguous thereto. Then close aseptically, employing drainage for not over forty-eight hours. If longer drainage is demanded, devise means by which asepsis in dressings may be continued indefinitely, and look on a mixed infection as a calamity. Sinuses should be well drained; the foci on which they depend should be treated, if involving joints, by perfect and long-continued immobilization, with due regard to fresh air and a high state of nutrition.

Light Therapy.

J. Rosenberg (*Medical Record,* Oct. 22, 1904) says the ultra-violet rays obtained from an iron-carbon arc of high amperage are a specific remedy in acute muscular pain, such as lumbago, torticollis, and pleurodynia.

In cases of acute and chronic neuritis these rays will always relieve pain, and in most cases, especially acute forms, effect recovery.

The bactericidal powers of the chemical light rays are easily demonstrated in inflammatory conditions of the skin of parasitic origin. In acne and furunculosis the curative effect is both prompt and certain.

His results in rheumatic arthritis have not been encouraging, thus differing from those reported by German authors. This

may in part be due to the limited number of treatments permitted.

In acute and chronic pleurisy and bronchitis the application of the ultraviolet rays is undoubtedly beneficial. The writer also believes that these rays could be of assistance in the treatment of pulmonary tuberculosis.

His results in gonorrheal peritonitis and catarrhal inflammation of the deep urethra and adjacent structures are certainly encouraging and justify further trials.

The author believes that the ultraviolet light rays will be of benefit in gonorrheal and tuberculous infections of the joints, also that the pains accompanying locomotor ataxia may be relieved and controlled.

Treatment of Chronic Renal Disease.

David Newman (*British Medical Journal,* Oct. 8, 1904) in discussing the efficiency of incision of the capsule or of cleavage of the cortex says that the operation gives marked relief to the renal pain of chronic Bright's disease.

In cases of hemorrhage, in which the bleeding is practically limited to one side, the operation should be recommended, as it has been frequently followed by cessation of the hemorrhage in chronic Bright's disease.

In cases of movable kidney associated with albuminuria, hematuria, tube casts, or blood casts, when due to causes resulting from the displacement, after the operation of incision and fixation these symptoms disappear permanently, but when coincident with chronic Bright's disease only temporary good is effected by operation.

Anuria in chronic Bright's disease may be temporarily relieved, and the patient's life prolonged; dropsy and dyspnea may subside for a time, but cure is not to be looked for in chronic non-infective nephritis as an effect of surgical treatment.

In anuria with uremic symptoms arising in the course of acute or subacute infective nephritis, free incision of the capsule and cortex, by relieving the tension and congestion of the parenchyma, enables the organ to resume its function, as shown by active secretion of urine from both kidneys after the operation.

The Treatment of Lupus Vulgaris.

Geo. Pernet (*British Medical Journal,* Oct. 15, 1904) is decidedly of the opinion that notwithstanding the excellent

results obtained by the *x*-rays and Finsen's light method in lupus vulgaris there is room for the continued use of excision, scarification, scraping, and caustics in appropriate cases. The point is to treat each case on its merits. The time and expense connected with the light and ray treatment is a serious consideration in the case of people who have to earn their living, or are dependent on their friends. Lupus vulgaris is rare among the well-to-do. The new tuberculin also has its place, but it should be used on the lines laid down by Professor Wright, whose investigations have revolutionized the method of its application. The Lortet-Genoud lamp does not give the good results obtained by Finsen's original apparatus, yet in limited patches a satisfactory result is obtainable. The treatment should be continued notwithstanding soreness. As to radium, Pernet had removed by it a pea-sized growth of mycosis fungoides; but of course in that condition the *x*-rays are the best, exerting as it were almost a specific action on that form of granuloma. With regard to rodent ulcer, recurrences are not infrequent after *x*-ray exposures. It appeared to Pernet that in the very aged rodent ulcer is more rebellious to the rays than is the case in younger patients. He has also observed good local results in leprosy with the rays, but of course they are not curative, the disease being a general infection; but by their means improvement of the face can be obtained in advanced cases.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,

Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Twins Born at an Interval of Seventeen Days from a Uterus Septus.

H. Paulin (*British Gynecological Journal*, August, 1904) reports a secundipara, aged twenty-five, whose catamenia were established regularly at sixteen, who had never aborted, and whose first child, a boy, had been born at term two and a half years previously, was under treatment in hospital for scarlatina from February 22 to April 15, 1903. She believed herself to have conceived directly after her discharge, as she had no return of menstruation. She had good health during her pregnancy until December 15, 1903, when she was surprised by the waters

breaking; no labor pains occurred till the same evening, but at 8 P.M. a living girl was born, head presenting, and shortly afterward a normal placenta (with polar perforation) and normal membranes. The midwife noticed that there was a second child in the womb, and as no contractions occurred Paulin was summoned to the case. He easily made out the fetal parts, and heard the heart sounds distinctly. On examination he felt in the vagina, and to the left side of some soft tissue, a comparatively hard and rigid cervix, with a partially patent orifice; the finger could not be introduced far enough to feel the child. The woman soon fell asleep, felt well the next day, and there was no uterine contractions. Hemorrhage soon stopped, and she had no lochia; the breasts were lax and no milk was secreted; no fever. She got up on the ninth day and looked after her house till December 31, when the waters broke. The pains did not come on until that night; but at 6 A.M. on January 1, 1904, a living female child was born, breech presenting; normal placenta and membranes, again with polar perforation, soon followed. After delivery the contracted womb could be felt in the right side of the hypogastrium. Hemorrhage and lochia were rather copious, but she had a normal and fever-free childbed. The breasts soon enlarged, and the supply of milk was so plentiful that she was able to suckle both children.

The weight of the first child, born four or five weeks too soon, was 1900 grammes; that of the second, fourteen days before term, 2500 grammes. On January 18, 1904, Dr. Kaarsberg examined the woman and found the uterus as large as if in the second month of pregnancy; but there was no marked elongation of the anteroposterior diameter. About one centimeter above the orifice he found a septum dividing the interior of the uterus into two cavities, a left and a right, into each of which the sound passed forward and outward. No division of the uterus into two could be detected by external palpation. Paulin, reviewing other cases of the kind already published, does not think that in any of them, or in the present case, can there be any question of superfetation.

Prognosis and Treatment of Papilloma of the Ovary.

A. Pozzi (*Rev. de Gynec. de Chir.*, June, 1904) has from his studies drawn the following conclusions: (1) Papillomatous tumors of the ovary (cystic or solid) should not be considered as always malignant; a great proportion evolve as innocent growths,

and do not recur after removal, or if they recur the tumor tissue is reproduced long after operation locally and without systemic infection. (2) It is necessary to distinguish generalization of malignancy, which is affected by the blood and lymphatic vessels from the grafting on to the adjacent peritoneum of papillomatous ovarian vegetations; the latter processes are seen in warts elsewhere. (3) A certain proportion of papillomatous ovarian tumors undergo malignant degeneration; it is impossible to distinguish this change by the naked eye in its earlier stages; the microscope can alone decide, and sections must be made from several parts of the tumor, as the malignant change is often very local at first. (4) When there is no cachexia or visceral metastasis the surgeon should act as though the tumors were innocent; disseminated papillary growths, often lying high up in the peritoneal cavity, may be overlooked; then they tend to disappear; or if they develop again their removal by a later operation can be easily effected. (5) So often is this disease bilateral that the opposite ovary should be removed, even if apparently healthy, at least in women near the menopause, for when the patient is young it is better to risk the chance of another operation. (6) Bilateral tumors generally require total or supracervical hysterectomy. (7) Where there is ascites it is advisable to drain the peritoneum after the removal of a papillomatous tumor. Incomplete operations are usually followed by diminution of the ascites and general and local improvement; even a simple exploratory incision may do good. Drainage is to be avoided only when the papilloma is entirely inside a cyst, and when at the same time ascites is absent.

The Maternal Heart in Pregnancy.

J. MacKenzie (*British Medical Journal*, Oct. 8, 1904) in his article on the question of pregnancy occurring in women with valvular disease draws the following conclusions:

1. When there is distinct evidence of failure of compensation, or when the patient is liable to frequent attacks of failure of compensation, pregnancy should be forbidden.

2. With fair compensation if there should be paralysis of the auricle, as evidenced by the pressure of a diastolic murmur and the absence of a presystolic murmur, or of a continued irregularity of the pulse, or of a jugular pulse of the ventricular type, pregnancy should be forbidden.

3. With fair compensation, with a mitral murmur systolic or

presystolic in time, with the apex beat within the nipple line and due to the left ventricle, the patient may undertake the burden of pregnancy.

In all cases of valvular disease, when conception has taken place, the patient should be kept under close observation. One feature of great prognostic significance is the presence or absence of symptoms of edema of the lungs.

Uterine Cancer Statistics.

B. Besson (*British Gynecological Journal*, August, 1904) formulates the following conclusions: (1) Uterine cancer may occur at a very early period of a woman's life; it is therefore of the utmost importance to examine any woman suffering from leucorrhea in order to insure timely intervention in cases of developing cancer. (2) The mortality at present in cases operated upon is two or three times greater after total abdominal hysterectomy than after vaginal hysterectomy. (3) The proportion of 38 per cent of survivals in operated cases after two years appears encouraging. (4) The greater proportion of survivals in cases operated on by vaginal hysterectomy indicates the corresponding superiority of this operation in cancers sufficiently localized. (5) Total abdominal hysterectomy has therefore a more restricted but yet a positive indication in cases of extensive propagation of the disease, provided the general health of the patient is in a satisfactory condition. (6) In advanced cases, with breakdown of the general health, all intervention should be avoided and palliative means only resorted to.

DERMATOLOGY.

UNDER THE DIRECTION OF ANDREW P. BIDDLE, M.D.,
Member of the American Dermatological Association.

Postvaccinal Eruptions.

In a paper read before the last meeting of the American Dermatological Association (*Journal of Cutaneous Diseases,* November, 1904) Dr. W. T. Corlett, of Cleveland, records notes on certain postvaccinal eruptions as observed in the city of Cleveland during the last five years. After reporting in detail upon eleven cases he states that in conclusion it may be said in review-

ing the histories of the foregoing cases that there are undoubtedly instances of postvaccinal eruptions although in many of the affections attributed to vaccination no connection can be established between the vaccination process and the subsequent disease. Naturally vaccination being so universally performed in all civilized countries any disease might be called a postvaccinal affection occurring in one previously vaccinated. At the same time, while there seems to be no uniform cutaneous manifestation such as is very generally observed after the use of diphtheria antitoxin, there are affections which are invariably associated with vaccination, and may be properly called postvaccinal eruptions. That these eruptions are peculiar to vaccination some difference of opinion exists; the writer believes such a claim has not thus far been truly established, because similar conditions are met with in the unvaccinated (Earlee).

The following resume however seems warranted at this time. Postvaccinal eruptions may be provisionally divided into four classes. The first class contains those which are considered not to be even indirectly the result of the vaccinal lesion. They may be divided into (a) deep-seated ulcerations at the site of vaccination, (b) moist undermining of the epidermis at the periphery of the festering vaccinal lesion, and (c) erysipelas or erysipelatous efflorescence.

The second class contains the bullous eruptions which have no especial distinguishing features. The third class comprises only eruptions which usually appear several weeks after vaccination and may or may not develop near the site of inoculation. A fourth class may possibly be added including scrofuloderma and lupus.

The etiology of these postvaccinal eruptions is doubtful but the writer believes that they probably depend upon (a) impure vaccinal virus; (b) uncleanliness at the time of vaccination, or before complete restitution has taken place following the inoculation of various pathogenic organisms; and (c) possibly the local disturbance caused by the vaccinal process in a subject of low resisting power, or one having a strong predisposition to some cutaneous disease.

In discussing the paper Dr. Jay F. Schamberg of Philadelphia said in part that the responsibility of determining whether a causal relationship existed between vaccination and various cutaneous diseases naturally fell on the dermatologist. He should be extremely guarded in expressing an affirmative opinion under such circumstances unless fully warranted by the facts.

A small body of antivaccinationists is waiting for any information which can be used to discredit vaccination. The medical profession is ever ready to admit and proclaim the truth, but where facts and figures are going to be wilfully exaggerated and distorted, and where such action is apt to redound to the injury of the human race, evidence must be thoroughly sifted and resifted before definite conclusions adverse to vaccination are to be formulated.

It appears to be a judicial weakness of the lay mind to confound sequence and consequence. Vaccination is the most universally performed of all operations. The vast majority of people of the civilized world subject themselves one or more times to it during their lives. In the city of Philadelphia during the past few years over 500,000 people, or about one-third of the population, availed themselves of the protective influence of vaccination.

No one ever has claimed that vaccination confers immunity against subsequent skin diseases. If it does not, it must occasionally happen that a cutaneous disease will make its appearance within a short period after vaccination. There are doubtless many eruptions which bear no relationship to vaccination, save a chronological one. The eruptive disorders that seem to be caused, at times, by vaccination might be due to one of two conditions: (1) wound infection, and (2) constitutional commotion. Considering the frequent maltreatment of vaccination sites by children, it is surprising that complications from wound infection do not more frequently develop.

The cause of the bullous eruptions which have been recorded by a number of observers as following vaccination is undetermined. Whether the affection is due to an impurity of the virus, or foreign infection of the vaccine site at the time of or subsequent to vaccination, time and future research must determine.

The occurrence of these bullous eruptions in those who have not been vaccinated should cause physicians to reflect and consider whether vaccination is really a factor in their production.

Vaccinia is an acute infectious disease, and might doubtless, like scarlet fever, measles, and allied affections, occasionally excite the appearance of an eczema or a psoriasis in persons predisposed to these disorders. It must be remembered that vaccination has also occasionally determined the disappearance of eczema and psoriasis. These changes are doubtless brought about by what the older writers called a "constitutional commotion."

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ORIGINAL CONTRIBUTIONS.

THE ALEXANDER OPERATION IN THE TREATMENT OF RETRODISPLACEMENT OF THE UTERUS.

BY F. M. DONAHUE, M.D., NEW BRUNSWICK, N. J.

In speaking of the Alexander operation in the treatment of retrodisplacements of the uterus, I do not wish to say that it will prove a cure-all for every backward displacement, for there are many conditions in which displacement backward occurs, and for which the operation should not be undertaken with any hope of giving relief. In fibroid tumors of the posterior wall of the uterus, that portion often becomes bent, and retroflexion of the uterus takes place; there it would be manifestly unfair to expect an Alexander operation to do any good at all, and so, in the same sense, are fibroids of the anterior wall of the uterus which, by their growth and the pressure they exert, produce a retroversion of the uterus. These fibroids and the displacements which they produce should have some other form of treatment than the operation of which I speak.

In retrodisplacements with adhesion of the fundus uteri to the rectum or to the peritoneum in Douglas's pouch, these conditions are usually the result of a pelvic peritonitis, set up by a septic endometritis, which extends through the tubes to the pelvic peritoneum, or through the lymphatics of the uterus to the broad ligaments and so to the pelvic peritoneum, and the uterus is bound down. It cannot be lifted up in the position of anteversion, or if lifted in this position, remains so only a few minutes, to sink back again as soon as the force applied is removed. This condition requires a different procedure, which will be mentioned later on.

In disease of the tubes and ovaries when the tubes contain pus, blood, or serum, or when the ovaries are cystic and enlarged, with these conditions there is frequently a backward displacement

of the uterus. Here the Alexander operation is particularly contraindicated, for you cannot treat the disease of the adnexa by an Alexander operation, and it is this disease which requires treatment, not the displacement. The one essential for a good result after an Alexander operation is that the uterus shall be freely movable and that the tubes and ovaries shall be healthy.

In many cases there will be associated with the displacement an endometritis due to the long-continued displacement, producing a congestion of the uterus, so leading to this condition. Here a dilatation of the uterus and a curettage should be done first, and the Alexander operation immediately afterward.

In my student days under the late Professor Munde the treatment of retroversion of the uterus was entirely by pessaries. If the uterus could be replaced and stayed in place, a pessary was introduced and the woman was allowed to go, to return once a month, or once in two months, to have the pessary removed, cleansed, and replaced. So these poor sufferers were a constant source of annoyance and sometimes of an income to the practitioner. If the uterus was adherent, the Thure Brandt method was tried, followed by applications of iodine to the vault of the vagina, and the introduction of boroglyceride tampons, to be renewed once or twice a week, according to the indications. These patients were seldom cured; they would go from one physician to another, to have only the same treatment applied.

Dr. Alexander devised the operation which bears his name and which forms the title of this paper. It consists of shortening the round ligaments by an incision through the anterior abdominal wall down to the external ring. The aponeurosis is divided, the ligament seized as it emerges from the external ring, pulled out till the fundus is against the symphysis pubis, and then stitched to the pillars of the external abdominal ring.

Wylie opened the abdominal cavity and shortened the ligaments within the abdomen. Kelly opened the abdomen and stitched the fundus uteri to the peritoneum of the anterior abdominal wall. Mackenrodt does a shortening of the round ligaments through the vagina; while Gilliam opens the abdomen, perforates the sheath of the rectus abdominis muscle, and stitches the round ligament in this position. While all these operations have their advantages, the one great disadvantage which they have, as compared to the Alexander operation, is that you must open the peritoneal cavity for their performance, and no matter how careful we may be of our asepsis, occasionally we get a septic infection, with all of its dire consequences. The operation of Wylie is good,

if you have conditions which require you to open the peritoneal cavity. After dealing with adhesions, or tubal or ovarian disease, the round ligaments are seized on either side with an artery forceps and pulled up. They form a triangle—the apex in the grasp of the forceps, the base at the broad ligaments. With a straight needle and catgut the two legs are sewed together, and the round ligaments are shortened in proportion to the extent of the pull.

Kelly opens the abdomen, lifts up the uterus, puts in two stitches in the peritoneum of the anterior abdominal wall, and through the fundus, behind the attachments of the broad ligaments. Mackenrodt makes two small incisions on each side of the cervix uteri in the vagina, grasps the round ligaments, pulls them down into the vagina and stitches them with catgut; while Gilliam opens the abdomen, frees the uterus, perforates the sheath of the rectus muscle, draws the round ligaments through the perforations and stitches them there.

The one objection to the Kelly operation, or to any operation which fixes the uterus to the anterior abdominal wall, is, in the words of Professor Polk, "You make one lesion to cure another."

The fixation of the uterus to the abdominal wall begets congestion, and congestion begets endometritis.

Another point: If the woman be of child-bearing age and married, pregnancy may occur. If she does not miscarry, there may be considerable difficulty in delivering the child, Cæsarian section having been resorted to in a number of instances to effect delivery. In cases where the uterus is adherent, and where there is no disease of the tubes and ovaries, I have adopted the method of Professor Polk, in making a vaginal incision in Douglas's pouch, breaking up the adhesions with one finger, putting a stitch or two in the vaginal incision, and then completing the procedure by an Alexander operation.

To do an Alexander operation properly, the following procedure is adopted: The uterus is first determined to be movable, and that there is no disease of the tubes or ovaries. The vagina is scrubbed with hot water and soap, then washed with bichloride solution and finally alcohol. The abdomen is scrubbed and shaved, as in the preparation for a laparotomy. If there is an endometritis, the uterus is first dilated and curetted. This is done with bare hands. Rubber gloves are now put on, and the Alexander operation is done by making an incision parallel with Poupart's ligament and about one inch above it. The tissues are divided down to the fascia of the abdominal muscles. This exposes the external abdominal ring.

The aponeurosis covering the external ring is next picked up between artery forceps and divided, when the ligaments may be seen. It is pulled out, stripping the peritoneum from off it as it emerges. It is now stitched with silkworm-gut sutures, using a figure-of-eight suture, and stitched to the pillars of the ring, and then an antiseptic dressing is applied. The first dressing is done, about the fifth day, when, if everything is doing well, a second dressing may be applied, which is allowed to remain until the twelfth day, when the stitches are removed.

The woman is allowed to sit up on the fourteenth day, and to go about gradually from then on. A pessary is always inserted, to be worn for two or three months, until the ligaments are firmly bound in their new position. In forty cases in which the writer has done this operation, all but ten have been heard from. They are all well anatomically and symptomatically. Of these forty cases, twenty-five were in married women. Six of these, or about twenty-five per cent, have been pregnant after from two to seven years of sterility, and have been delivered of full-term children, without recurrence of the displacement. Two were widows, and thirteen were in the unmarried class.

These are my views in regard to a procedure which, in carefully selected cases, is capable of effecting a cure in a very troublesome class of cases, and without any mortality.

THE CARE OF THE PERINEUM DURING AND AFTER PARTURITION.*

BY W. A. WYMAN, M.D., CHEYENNE, WYO.

The perineum anatomically extends from the rami of the pubes and ischia laterally, and from the pubic arch in front to an imaginary line drawn from the tuberosities of the ischia; but for the purposes of this paper it extends from the posterior commissure of the vulva to the anus. It is only about one inch in length —a very small thing to cause so much trouble as it does.

The perineum is capable of very great distention during the pressure of the child's head in labor, even to the extent of four or five inches. When easily dilated it offers but little obstruction to the passage of the child, but when thick, hard, and undilatable, it is sometimes capable of delaying the progress of labor for hours by its unyielding nature.

*Read before the Wyoming State Medical Society, September, 1904.

A laceration of the perineum, when unrepaired, leads to untold misery for the unfortunate mother. By destroying the pelvic floor and the support which it affords to the uterus, it permits prolapsus uteri, vesicocele, rectocele, and a multitude of bowel, bladder, and reflex nervous troubles, which make life almost unbearable.

Nothing can be done for the perineum until the second stage of labor is well advanced. At this time one or more fingers may be introduced, and by a sweeping motion traction may be made upon the perineum during a pain, thus gradually dilating it and tiring out the resisting muscles before the head or presenting part has reached this region. In the latter part of labor this serves a double purpose, especially if the pains are feeble, by stimulating the propulsive power of the uterus.

As the head begins to distend the perineum it should be supported by placing the palm of the hand against it, the fingers extending on either side of the coccyx, and pressing the head forward toward the pubis during a pain. Especially should this be done if the head is advancing rapidly. After the perineum is well distended, and while the head is supported by one hand, the vulva may be pressed gently over the child's head during the interval between the pains, and thus the head delivered slowly and safely. This may be more readily done if the patient is well under the influence of chloroform, which I believe should nearly always be administered during the second stage of labor, and carried to full anesthesia just before the head is delivered. But the perineum is not yet safe. The head should be supported by the left hand, and as it rotates to bring the shoulders into position, the finger of the right hand should be inserted and hooked into the axilla of the child, the head and shoulders pressed toward the pelvis, the shoulder and arm engaging at the perineum delivered, when by lowering the head and shoulder, the shoulder at the pubic arch is easily disengaged and the remainder of the child delivered. I am satisfied many cases of laceration are caused by the shoulders and not the head.

Of course, in some cases the head is delivered so rapidly, the shoulders following immediately, that there is no time for these manipulations, but under chloroform there usually is.

In a forceps delivery the same precautions should be used, and as the handles of the instruments are carried over the abdomen, the child's head should be pressed toward the pubis. While many authors teach that the forceps should be removed when the head begins to distend the perineum, I believe it is better to retain them in position, as the room they occupy is very small, and

while traction should be discontinued, the forceps may be held with one hand, the perineum supported with the other, and the head guided into the world without unduly distending the perineum. When properly used, laceration very seldom occurs in a forceps delivery. When the perineum is rigid, gelsemium or some other relaxant may be given, but when chloroform is administered I believe any other remedy is seldom required. Should a laceration unfortunately occur, it should be repaired as soon as possible after the delivery of the placenta, though I generally wait until the child has been attended to. If the mother is very much exhausted, a delay of six or eight hours may be permitted for her to recuperate. After the patient and bed have been rendered as clean as possible, the parts should be thoroughly disinfected, any ragged shreds should be trimmed away, the hair removed with scissors or razor, and the torn parts brought into apposition with as many stitches as may be necessary, taking care to make them deep enough to bring the torn muscles into apposition and not the skin alone. In ordinary cases I believe strong, heavy catgut is sufficient, as it obviates the necessity of removing the stitches later, which is so much dreaded by the patient. Where the laceration is severe I prefer sterilized silk. Silver wire I do not like, as it is uncomfortable for the patient and serves no better purpose than silk.

The parts should then be dusted with aristol, or some disinfectant powder, and dressed with sterile gauze and cotton. These should be changed as often as they become soiled, and the seat of injury kept clean.

I am aware that some of the methods I have advocated will be designated as meddlesome midwifery. However, if the hands and forearms are thoroughly disinfected before making the examinations, and the hand kept clean during the labor by a liberal use of bichloride solution, I do not believe any harm will result, and they have stood the test of experience.

Had I known these things in my early practice, many of which I have learned by sad experience, I would have been saved much trouble and anxiety.

The new naval laboratory at Brooklyn is nearing completion and will shortly be ready for occupancy. It is more accurately described as a medical supply depot, since it will be the establishment from which will be distributed the medical stores for ships of war.

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EDITED BY FREDERICK W. MANN, M.D.

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EDITORIAL ARTICLES.

FALLACY OF PERCENTAGE IN URINARY ANALYSIS.

Attention has recently been called to frequent errors in reporting percentages of albumin in urine—30, 40, and 50 per cent being not unusual figures. These are manifestly impossible amounts, when we consider that white of egg, which consists almost entirely of albumin and water, has a specific gravity of 1.045, and yields only 12.5 per cent albuminous substance, while the specific gravity of nephritic urine rarely reads 1.040, and in addition to its albumin content has a considerable amount of other solids.

These errors may occur in several ways. The printer is possibly responsible for some. Others undoubtedly are due to misreading of the Esbach tube, which is probably the most commonly used method for the clinical estimation of albumin in urine. The tube is graduated to read grammes per liter, or into tenths of one per cent.

Again, if we boil an albuminous urine and allow the deposit to settle, we must not conclude that we have 50 per cent of albumin because the test-tube is half full of percipitate.

A method has been devised of estimating albumin by precipitating the albumin in 10 Cc. of urine, centrifuging the urine in a graduated tube until the precipitate has been packed as closely as possible in the bottom of the tube. In this way we determine the bulk of albumin in a known quantity of urine. For example, we find that the packed precipitate occupies the space in the bottom of the tube up to the 5 Cc. mark. Then in 10 Cc. of urine we have 5 Cc. of albumin; one-half, or 50 per cent, of the bulk of the urine is albumin. This we know as the bulk percentage. The actual percentage by weight of albumin is about 1/60 of this

bulk percentage, or in this instance less than one per cent. As the bulk of albumin rarely reaches 50 per cent, we see that one per cent by weight is a very large amount. More often the figures run from 0.1 to 0.5 of one per cent.

But this brings us to the question: Of what value after all is a percentage of any urinary constituent, normal or abnormal? Of very little except as a step in determining the actual quantity of that constituent excreted. What we want to know is not the percentage of solids, or of urea or albumin, but actually how much is excreted each twenty-four hours. Percentage is only a relative term. It means merely parts per hundred. If we say a urine contains 2 per cent urea we have no idea of the actual excretion for twenty-four hours, for that depends not alone on the percentage of urea but on the amount of urine passed. If the patient passes 600 Cc., 2 per cent equals 12 grammes; if he passes 2400 Cc., 2 per cent equals 48 grammes. If we say that a urine contains 5 per cent sugar, we have no idea of the daily excretion, but if we say that a patient passes 100 grammes of sugar in the twenty-four hours, we have a perfectly definite idea.

Another source of error is the varied amount of solids excreted at different times during the tweny-four hours; depending on the ingestion of food and the periods of bodily activity and rest. This excretion increases after food and with exercise, and reaches its lowest limit early in the morning after a long period of fasting and rest. This early morning sample of urine is usually considered best for analysis—why, it is hard to tell; in fact it is the poorest sample that can be collected at any time in the twenty-four hours, because it is poor in solids, and gives no proper idea of the daily excretion.

The only way to obtain reliable information as to the daily excretion of urinary constituents, normal or abnormal, is to collect the entire twenty-four hours' urine, measure it, make the analysis from a sample of the mixed urine, and state the results in absolute amounts, not in percentages.

EDITORIAL NOTES.

A Simple Method of Street-car Ventilation.

The impurity of the air of the street-cars is notorious, and the street railway authorities seem to care little or nothing for the proper ventilation of cars. The chief of the Brooklyn health

department has succeeded in devising a very simple method of ventilating cars. In the deck sash of the car he had two openings made about ten inches apart, and into these openings were fitted slats which deflect the intake of air to the roof of the car. From the side of the car between these openings was extended a shingle, against which the wind strikes when the car is in motion. The whole scheme of ventilation then depends on the motion of the car at the average rate of fifteen to eighteen miles an hour. The air strikes the front of the shingle and is deflected into the car, while any dust it may carry falls from the shingle to the ground. At the same time the forward motion creates a vacuum in the rear which sucks out the impure air in the car through the rear slats. The cold pure air entering the car goes downward, while the warmer impure air rises and passes out. In this manner 300 cubic feet of air enters the car at the front each minute, and in the same length of time the same amount of impure air is exhausted from the rear. In tests the atmosphere in the car was rendered unbearable, and the car then set in motion, and in two minutes and thirty seconds was absolutely pure, while a lighted taper did not show the motion of the air within the car.

It is sincerely to be hoped that this simple device will be universally adopted, for the present overcrowded condition of street-cars with the foul air they contain is a constant menace to the health of passengers.

Dipsomania from a Layman's Point of View.

The July number of the *Arena* contains an article by a well known novelist in which he describes in a very lucid manner the horrible sufferings of a dipsomaniac. For obvious reasons the writer conceals his identity, the article being edited by Dr. W. J. Howard, of Baltimore. The writer makes a strong plea for the irresponsibility of the periodical drinker. He describes with marked clearness the symptoms and progress of an attack. At the onset would come an inability to transact business, restlessness, outbursts of temper, and a nameless but overpowering fear would take possession of him. He was conscious of two personalities—one operative in the normal condition, the other active in his abnormal state. This conflict of personalities was bitter, but at times the abnormal was too strong to resist, and he could only find relief in alcohol. The writer relates of his recovery, which only came about when he realized that he was not the

victim of vice but of a pathological condition. The article is meant to show the wrong attitude taken by the public toward periodical drinkers, and a strong plea is made that they should be shown the same consideration as are the insane and the epileptic.

Alcoholism Due to Patent Medicines.

The recent exposures by a number of lay journals of the large amounts of alcohol usually found in the various patent medicines which are now being so extensively advertised are having their effects. At a recent meeting of the Catholic Total Abstinence Union of America, which was held in Hartford, the Rev. Father H. J. Stanley in his address said that the growth of intemperance among women was due to the presence of alcohol in patent medicines. He strongly urged his hearers to make war upon them. If the temperance societies succeed in destroying the patent medicine they will have accomplished a great work.

Physical Development of Schoolchildren.

An excellent system has been adopted by the public schools of Paris by which the weight, height, and chest measurement of all the pupils will be taken every three months, in order that their physical development and the state of their health may be estimated. The results are entered upon cards, which are sent to the parents or relatives of the pupils. Such a system ought to be introduced in our own schools, for aside from the valuable statistics which would be gathered, it would prevent the attendance of such pupils as were not strong or well enough to pursue the prescribed course of study.

Sued for the Return of a Fee.

Dr. Doyen, the well known French surgeon, is being sued for the return of a fee which he collected in advance. Doyen, who claims to have discovered a serum which will cure cancer, was sought by an American lady suffering from cancer which had been pronounced by several American and English physicians as incurable. Dr. Doyen undertook to treat the lady with his serum, and asked a fee of $20,000, which was paid a fortnight after the

injections were begun. The treatment made the lady worse, and her husband declined to have them continued. The patient died a few months later, and her husband has brought an action for the return of the fee. What the outcome will be is difficult to forecast, but from this distance it looks as if Dr. Doyen had the better of the argument owing to his having already been paid. It is hard to extend any sympathy to rich Americans who think they must go to Paris for treatment of their ailments. Doubtless Parisian physicians do effect cures, but are they not due to the psychological effects produced by the large fees demanded and paid?

The Law on Adulterated Liquors.

Much comment has been excited by a recent statement made by Dr. Wiley, the government chemist, that 85 per cent of alleged whiskey sold in this country is adulterated. It is advocated by some that more stringent laws ought to be passed, it being shown by some recent investigators that a great deal of blindness has been caused by the consumption of whiskey in which wood alcohol was the main constituent. Severe penalties should be provided for any manufacturer in whose product wood alcohol is found.

An Eldorado for Quacks.

The medical counsel for the Medical Society of the County of New York recently made the statement that there are no less than 20,000 quacks in New York City, while there are less than 6000 regularly qualified practitioners. All the efforts of the profession to stamp out quackery seem to be fruitless. If the public insists on being gulled by quacks there seems to be nothing to do but to let it.

ITEMS AND NOTES.

THERE are twenty cases of smallpox reported from Battle Creek.

THE Nobel prize for medicine has this year been awarded to Prof. Robert Koch.

DIPHTHERIA has broken out in the marine barracks at the Brooklyn navy yards.

DR. NICHOLAS SENN has returned from his trip around the world and has resumed practice.

MISS MARY TERRY, who recently died in Venice, left $300,000 to the City Hospital of Hartford, Conn.

THE first of the new German academies for practical medicine was formally inaugurated at Cologne, October 10.

THE University of Pennsylvania has just completed at the cost of $7000 the equipment of the new medical laboratories.

THE Illinois State Board of Health has been awarded a gold medal for its exhibit in the section of hygiene at the Louisiana Exposition.

ACCORDING to Chicago's Bulletin of the Health Department upwards of 270,000 vaccinations have been performed in the city since October 1.

THE next annual meeting of the Western Surgical and Gynecological Association will be held in Milwaukee December 28 and 29, 1904.

THE German emperor is again reported to be suffering from a return of his throat trouble, and it is said that another operation will be necessary.

THE government weather bureau for Texas has issued a map showing that the boll weevil spread considerably in northern Texas during the month of October.

A SEVERE epidemic of measles is said to be raging in Methol and Acidalia, Delaware county, N. Y., and to be spreading rapidly. The local schools have been closed.

THE deaths of the following eminent foreign medical men are announced: Dr. Ivan Neiding, professor of forensic medicine in the University of Moscow; Dr. Pauchon, a professor in the Marseilles School of Medicine.

THE Civil Service Commission has decided that hereafter persons suffering from consumption will not be employed in the postoffice or in any other government position from which they are likely to spread the disease.

THE French Association of Male and Female Teachers has resolved to establish a sanatorium for tuberculosis patients, and building operations have already commenced. The site is on the slope of the Puy Gaudy, near Gueret.

A JAPANESE imperial medical commission has been making a tour of the health departments of the principal cities of this country and Europe. The commission consists of Dr. Takamine, professor of chemistry in the Imperial University at Tokio; Professor Tanva, of the department of pharmacy in the same university; and Dr. Sato, chief surgeon at the university.

THE Chicago Gynecological Society recently held its annual meeting, when the officers elected for the ensuing year were as follows: President, Dr. J. Clarence Webster; vice-presidents, Drs. Frank T. Andrews and Henry F. Lewis; secretary, Dr. Palmer Findley; editor, Dr. Rudolph W. Holmes; treasurer, Dr. Chas. B. Reed; pathologist, Dr. Gustav Kolischer; councilor, Dr. Emil Ries.

THE Norwegian Parliament promises, says an exchange, to interest itself in the tuberculosis-in-prison question. Elaborate statistics have been gathered, showing that 56 per cent of all deaths in prisons are from tuberculosis. This is three times as much as the mortality from tuberculosis among free people. As it is now, thousands of prisoners are infected with tuberculosis simply because the state refuses to protect them.

THE *London Chronicle* says: "Train catarrh has as yet no name in America or anywhere else, but here is its christening. The present writer has lately spent four nights in sleeping-berths on American trains, and he has spent many other nights on Continental trains. Always there has resulted the catarrh, produced, one may presume, by changes of temperature and dust. Many travelers have suffered in the same way. What do the doctors say about this form of disease?"

The International Jury of Awards at the St. Louis Exposition has awarded two grand prizes to the Charity Organization Society of the city of New York—one for its general exhibit and another for the special exhibit prepared by the Committee on the Prevention of Tuberculosis. Several of the workers in the society also received personal awards as collaborators, or in recognition of special services in some field of philanthropic activity.

The fifth Italian Pediatric Congress was held in Rome on October 28 to 31. Two subjects were discussed, namely, infantile tuberculosis and anemia in infants. The other work of the congress was divided into the following sections: (1) Acute and (2) chronic toxic infections; (3) milk and suckling; (4) digestion and diseases of the digestive canal; diseases of (*a*) the respiratory, (*b*) circulatory, and (*c*) genito-urinary apparatus; diseases of the nervous system; hygiene and therapeutics; general and orthopedic surgery.

Switzerland has always been a favorite resort for women ambitious, in the words of Molière's graduation ceremony, *"entrare in nostro docto corpore."* They appear, indeed, to be thrusting aside the oppressor man, who so long excluded them from what he fondly believed to be his heritage. According to recently published statistics, in the winter semester 1903-04, of a total number of 1654 medical students in the Swiss universities, 891 were women and 763 men. There are a large number of foreigners, mostly Russians, among the female students.

Professor Homalaeya has been lecturing in Baku and Saratoff on the necessity of maintaining the struggle against the probably hidden forces of cholera all through the winter, warning his hearers that the bacteria of cholera have the quality of retaining their vitality during long periods of cold weather, and of initiating an epidemic in the spring without the assistance of any infection from distant districts. "I am profoundly convinced," he concludes, "that it is necessary to continue the struggle with the epidemic the whole winter through without intermission even to the smallest degree."

The next congress of French scientific societies will be held at Algiers in 1905. The following are the questions proposed for discussion in the Section of Medicine: Tuberculosis and the means of diminishing contagion; sanatoriums at high altitudes and by the seaside; hygiene of hot countries; methods of disin-

fection against contagious diseases and the results obtained in towns, in rural districts, and in institutions where the disinfection of dwellings and living rooms is practiced; the conveyance of water to towns; the different forms of plague and its propagation; the part played by insects in the dissemination of disease; the prophylaxis of malaria in Northern Africa; trypanosomiasis in Algeria.

Official statistics recently published by the Austrian Ministy of Education show that in the last summer semester the number of matriculated students of medicine in the University of Vienna was 833, of whom 24 were women; in that of Innsbruck, 109; and in that of Graz 156, of whom four were women. In the German University of Prague the students of the Medical Faculty numbered 155, while the Czech University had 302, of whom two were women. In the University of Lemberg there were 81 medical students, of whom 11 were women, and in that of Cracow there were 118, of whom 15 were women. In all these universities, in addition to the matriculated students there were a considerable number of others attending special courses.

The President of the Republic of Panama has appointed the following officers of the Fourth Pan-American Medical Congress, which is to be held the first week in January, 1905: Dr. Julio Ycaza, president; Dr. Manuel Coroalles, vice-president; Dr. Jose F. Calve, secretary; Dr. Pedro de Obarrio, treasurer. There will be four sections—surgery, medicine, hygiene, and the specialties —to which the following officers have been appointed: Surgical Section—Major Louis LaGarde, president; Dr. E. B. Harrick, secretary. Medical Section—Dr. Moritz Stern, president; Dr. Daniel R. Oduber, secretary. Section on Hygiene—Colonel W. C. Gorgas, president; Dr. Henry E. Carter, secretary. Section on Specialties—Dr. W. Spratling, president; Dr. Charles A. Cooke, secretary.

Bismarck's medical attendant was, according to an exchange, an irregular practitioner; Schweninger by name, and Bismarck's influence not only secured him an official chair in the Berlin medical faculty, but enables him to this day to have every wish gratified. He was appointed a few years ago to the directorship of a large and important hospital, but this institution was omitted from the list of those where the medical graduates were to receive their final practical training as "praktikants." Schweninger protested against this slight, and the authorities have now added his

hospital to the list. Our German exchanges regard this Schweninger matter as a national disgrace. At the recent International Congress of Dermatology a formal protest was made against his teachings that mercury is useless and harmful in syphilis. He treats that disease with hydrotherapy alone.

According to the *Philadelphia Ledger,* during the last fiscal year the American railways were operated at a cost to passengers and employees of 3787 killed and 51,343 injured in train accidents alone. Here is a loss of life and injury to human beings far in excess of that during our little war with Spain, and exceeding even that of some of the great battles of history, and this sacrifice is due solely to indifference and carelessness and parsimony. In Great Britain in 1903 the number killed in train accidents was 36 and the injured 919. This was an increase of 19 in the number of passengers killed, but it should be recalled that in 1902 only six passengers were killed, and in 1901 none at all. In 1903 there were only 235 collisions and derailments, as against the 11,300 in America. The comparative immunity which the British roads enjoy is due to the universal adoption of the block system, and the record in America shows conclusively that until this system in one or another of its several forms is made compulsory in this country the railways will continue to take their annual toll of blood.

One of the most startling features of the annual report of the Commissioners in Lunacy is that part which shows how steady has been the increase of insanity in Great Britain. On the first of January last no fewer than 117,199 persons in England and Wales were certified as insane. This was an increase of 3235 on the figures for the same day in 1903, which in turn had shown an increase of 3251 on those of the preceding year; in fact, during the last ten years there has been an average annual increase of 2513. Taking the period covered by charts in the report, the increase appears to be continuous for nearly half a century. Here, for instance, are some remarkable figures: Insane (all classes), 1859, 36,762; 1904, 117,197. Since 1859 therefore the number of lunatics has about trebled. Reverting to the figures for last year, we find that the main increase, amounting to 2540, or 78.5 per cent, occurred among persons now detained in county and borough asylums, and that the increase in the metropolitan district asylums has been 688—figures which suggest considerable additional cost to ratepayers. Altogether there were on the first day

of the current year 106,771 pauper patients, whose maintenance has to be defrayed wholly or in part out of the rates. There were besides 877 criminal patients, detained chiefly at Broadmoor, and 9551 private patients.

An exchange states that serum treatment has thus far failed to cure "summer complaint" in children. Less than a month after the death of his grandchild in 1900 Mr. John Rockefeller had put the machinery of science into motion to discover the cause of the disorder so fatal to infants commonly known as summer complaint. He announced an initial fund of $200,000 to be devoted to research, and asked Dr. William H. Welch, who is one of the most distinguished pathologists in the world, to conduct the inquiry. In 1902 it was announced that an antidysenteric serum had been discovered. Since that time twelve bacteriologists have been in charge of investigations in New York, Boston, Philadelphia, and Baltimore. The second annual report of the board, just completed, says the serum is not a success. Almost half the children treated died, and in only a few cases has a noteworthy improvement followed its administration. Dr. Simon Flexner of the University of Pennsylvania, who wrote this section of the report, declares that the figures indicate little of the gravity of the infection, since it is well known that the result in all forms of intestinal diseases depends upon the age and previous condition of the patient.

The College of Physicians of Philadelphia announces that the next award of the Alvarenga prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about $180, will be made on July 14, 1905, provided that an essay deemed by the Committee of Award to be worthy of the prize shall have been offered. Essays intended for competition may be upon any subject in medicine, but cannot have been published, and must be received by the secretary of the college, Dr. Thomas R. Neilson, on or before May 1, 1905. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned upon application within three months after the award. The Alvarenga prize for 1904 was not awarded, no essay of sufficient merit, in the judgment of the committee, having been submitted in competition.

A Chicago exchange states that the recommendation of the Civic Federation that something be done to inspect the meat sold in Chicago has been taken up in earnest by the Council Committee on Health. The investigation of the federation led it to report that while there was perfect inspection by United States inspectors of the meat intended for export, no attention at all is paid to that eaten in the city in which it is killed. A well informed member stated that there was not much to be feared from the large packing houses, as practically all their meat was inspected by the government employees, but there had grown up around the yards a number of small slaughter-houses which killed entirely for local consumption, sometimes buying cattle which had been rejected by the exporting houses, and there was no inspection at all of their products. A subcommittee was appointed to take up the matter, and the committee will make a demand on the council that the next appropriation bill provide for inspectors at the stock-yards.

The Bulletin of Chicago's Health Department says: "After a period of unusual freedom from whooping-cough the disease is increasing in many parts of the city. During the first nine months of the year there were only 64 deaths from whooping-cough. It is probable that the disease will not assume any such proportions as it did last year, when there were 256 deaths from whooping-cough during the first nine months. This, however, does not warrant any exposure of the young to the risk of contracting the malady. Osler says: 'Parents should be warned of the serious nature of whooping-cough, the gravity of which is scarcely appreciated by the public.' Particular care should be taken that children suspected of the disease are not sent to the public schools or exposed in any way so that other children can become contaminated. There is more reprehensible neglect in connection with this than with any other disease. The patient should be isolated, and if the paroxysms are at all severe, at rest in bed. Fresh air, night and day, is a most essential element in the treatment of whooping-cough. The medicinal treatment of whooping-cough is most unsatisfactory."

The London *Lancet* gives the following testimony respecting the preservation of eggs by the use of silicate of lime or water-glass. Water-glass owes its preservative effects to the formation of a hard, glassy silicate of lime within the substance of the shell, forming, so to speak, a perfect envelope of glass. It is well known, further, that water-glass possesses a powerful

antiseptic action. Eggs treated in this way are said to preserve their fresh character and to be indistinguishable from an egg taken straight from the nest. This water-glass ought to be found at any well equipped drug store or could easily be made by any bright drug clerk, and should not cost over 75 cents per gallon. The liquid should be mixed with 15 parts of warm water, the eggs placed in a stoneware jar, and the solution thus diluted poured over them until they are well covered. As the water evaporates the jar should be refilled so that none of the eggs are uncovered. The same solution can be used again. When the eggs are taken out they should be washed in cold water and dried, and it is said that it would be impossible to distinguish between them and fresh-laid eggs.

A CIRCULAR issued by the Michigan State Board of Health says: An item has been going the rounds of the press relative to the death of William Taylor, a child, at Port Huron, alleging that "the parents believe that his death was caused by vaccination." But an official report to the secretary of the State Board of Health clearly proves that the alleged belief had no foundation in fact. The report says that a short time after vaccination the child was taken sick with bowel trouble and had no medical attendance, the parents being "Christian scientists." After the death of the child the coroner called in a reputable physician, who found that the vaccinated arm, aside from a small scar, was exactly the same as the other, and showed no signs of having been inflamed. The physician and coroner came to the conclusion that the child had died of "enterocolitis"—inflammation of the bowels. It appears that the parents belong to a sect whose members do not believe in vaccination nor in calling in a physician, and undoubtedly would have been pleased to have had the death recorded as due to vaccination, especially as otherwise there is a suspicion as to the effect of the lack of proper medical attendance for the relief of the inflammation of the bowels.

ACCORDING to the Chicago Bulletin of the Health Department a dozen years ago Chicago had the highest typhoid death-rate of any large city in the civilized world. To-day its rate is among the lowest. During the four years 1889 to 1892 inclusive there were 4747 deaths recorded from typhoid fever—an average rate of 10.86 in every 10,000 of population. In the four years since the opening of the drainage canal there have been 2235 such deaths—an average of 3.09 in every 10,000 of population. These figures show a reduction of nearly three-quarters (74.8 per

cent) in the typhoid mortality-rate. In 1891 occurred the greatest typhoid mortality in the history of the city—1997 deaths and a rate of 17.22 per 10,000 of population. The highest in the last four years was in 1902—801 deaths and a rate of 4.40. The lowest in the early period was in 1899—453 deaths and a rate of 4.84. The lowest in the later period was in 1900—337 deaths and a rate of only 1.99 per 10,000 population. Since the opening of the drainage canal in January, 1900, there has been a reduction of 44.4 per cent in the seasoned mortality—that is, from 1.21 in 1901 to 0.67 in 1904 per 10,000 of population. And the public water-supply during the period has been the purest in the history of the city.

THE following prophylactic measures for the prevention of pneumonia are suggested by Dr. Edward F. Wells of Chicago: (1) Pneumonia sputum should be destroyed before it has become dry. The sputum which clings to the teeth and lips, and that which may adhere to the fingers and bedding, should be wiped up with moistened cotton, gauze, or other cloth, and these burned. All sputum, although not pneumonic, might well be destroyed. In coughing, in the case of the healthy as well as the pneumonic, a cloth, preferably moist, should be held before the mouth in such a manner as to prevent the projection into the surrounding air of the fine, insensible, but probably pneumococci-bearing spray which follows ordinary coughing. The same applies to sneezing and blowing the nose. (2) The nostrils, mouth, and throat should be kept as clean as possible. Cleansing sprays and washes for the nostrils; washes for the mouth, and brushing the teeth; gargles and drinks for the throat. Permanent occlusions of the nostrils should be removed, while transient ones may well be cared for by the more or less frequent use of a spray of adrenalin solution. Honey-combed tonsils and adenoid growths should be removed. Taking a drink of water after eating is a habit which should be formed and cultivated. Every means should be taken to prevent sleeping with the mouth open. (3) The room occupied by a pneumonic patient should be afterward disinfected, as is done after diphtheria and some other infectious diseases. Remaining long or unnecessarily in a room occupied by a pneumonic patient should be avoided. (4) Respiratory catarrhs from whatever infection should be avoided, and if contracted should be relieved as quickly as possible. (5) Physical and mental exhaustion, privation, undue exposure to cold and inclement weather, all should be avoided as far as practicable.

NEW PUBLICATIONS.

THE SURGERY OF THE ABDOMEN.

In the present volume Dr. Bayard Holmes reviews his experiences in the surgery of the appendix. The author does his best to bring the subject of appendicitis within range of the perspective of both physician and surgeon. After dealing with appendicitis in eight chapters, the author takes up the subjects of peritonitis, intussusception, typhoid ulcer, and carcinoma of the intestinal tract, reviewing the operative procedures which are possible in each of them. The book is excellently illustrated with colored plates.

The Surgery of the Abdomen. Part I. Appendicitis and Other Diseases about the Appendix. By Bayard Holmes, B.S., M.D. New York: D. Appleton & Co., 1904.

THE SUPPRESSION OF TUBERCULOSIS.

All concerned in the subject of tuberculosis will be most interested in this little book, which consists of Von Behring's Cassel lecture, which was delivered last year, and which caused considerable sensation owing to the author's statement regarding the preservation of milk. The work is a very interesting review of the whole subject and should be read by every one.

The Suppression of Tuberculosis. Together with Observations Concerning Phthisiogenesis in Man and Animals. By Professor E. Von Behring, of the University of Marburg. Authorized Translation by Charles Bolduan, M.D. New York: John Wiley & Sons. London: Chapman & Hall, Limited, 1904.

SERUM DIAGNOSIS.

This is a translation of Rostoski's book. It covers pretty thoroughly all that is at present known regarding agglutination methods in the laboratory, as also of the precipitins as diagnostic agents. It is a very interesting compendium of all that is known of this most important branch of medical science.

Manual of Serum Diagnosis. By Dr. O. Rostoski, University of Würzburg. Authorized Translation by Dr. Chas. Bolduan. New York: John Wiley & Sons. London: Chapman & Hall, Limited, 1904.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Cancer Facts and Cancer Fallacies.

At the last meeting of the British Medical Association H. Snow (*British Medical Journal,* Oct. 29, 1904) drew attention to the rapidly increasing cancer mortality in every part of the civilized world. He thought that by a proper exercise of its functions the association might largely reduce this mortality by placing the facts already known respecting the origin and phenomena of cancer on a truly scientific basis, and advocated the formation of an association cancer committee, whose duty should be to tabulate these and to put forward a precise nosology and classification of the numerous maladies now vaguely passing as "cancer." The present research schemes are greatly hampered by the want of such a preliminary measure, and can hardly be expected to succeed without it.

In England and Wales the ratio of registered cancer deaths to each million of living persons has progressively increased from 385 in 1864 to 461 in 1874, 563 in 1884, and 713 in 1894. In 1901 "among males cancer was fatal at the rate of 691 per million, and among females at the rate of 985 per million."

Statistics indicating the same phenomena were cited from Scotland, Ireland, New York, Connecticut, Massachusetts, Rhode Island, New Hampshire, Austria, Bavaria, Holland, Italy, Norway, Prussia, Amsterdam, Boston, Breslau, Brussels, San Francisco, Stuttgart, Vienna, St. Petersburg.

The word "cancer" is no less vague than "fever." It includes ten genera and a large number of species. The causes of each differ widely, as do the phenomena. The gross causation of each is well ascertained, but statistical returns by confounding all together under one heading render the subject obscure. For example, epithelioma, the special "cancer" of the male sex, is always generated by direct mechanical friction; whereas carcinoma, that of the female, follows neurotic causes, perverting the natural devolution of glandular organs to their final resting stage, after the close of their functional activity. Moreover, the infective nuclei or particles of protoplasm emitted by the former are permanently retained by the adjoining lymph glands; those of the

latter only temporarily. Thus a highly important distinction is passed over by the prevailing nomenclature. In both instances the lymph-glands destroy the cancer protoplasm up to a certain point. In a third variety—true sarcoma—they do so permanently. On the investigation of these distinctions the question of a possible cure probably hinges; but at present the importance of the phenomenon seems to pass unrecognized.

Of many current fallacies, heredity has long been shown by the exhaustive examination of numerous cases not to be a *vera causa* of ordinary cancer. Each separate case has its definite excitant whether there is a history of "cancer in the family" or not. Malignant disease has been proved to bear no relation to soil, climate, or food. The researches of Haviland have been tested by reference to the towns which he asserted to be specially liable because situated on rivers liable to inundation. The fact could not be substantiated, and any apparent prominence in the mortality returns has been found due to the presence of a large infirmary attracting patients from adjoining counties—as at Shrewsbury, for example.

The "constitutional origin" of cancer and the supposed necessity of its recurrence after operative removal are venerable fallacies dispelled by ascertainment that the bone-marrow holds mammary cancer latent for five or six years. Within a certain margin of time prior to the establishment of marrow infection the disease can be removed radically by operation, but subsequently "recurrence" is inevitable.

The Advantage of Performing Capital Operations in Certain Cases Without Anesthesia.

At the recent meeting of the Pennsylvania State Medical Society, J. J. Buchanan (*American Medicine,* Nov. 5, 1904) read a paper under this title. After referring to the dangers inherent in the use of general anesthesia in certain cases, and the inefficiencies of local anesthesia in extensive and deep operations, he gave the following indications for the performance of operations without anesthesia: (1) Profound septic infection. (2) Severe collapse from loss of blood and shock. (3) Fecal vomiting with liability to drowning during operation, or aspiration pneumonia subsequently. (4) Collapse or compression of lung with liability to respiratory failure. (5) Obstruction of esophagus. (6) Advanced kidney disease with liability to anuria. (7) Ease of performance with minimum of pain. He gave an extensive list

of operations he had performed in the presence of these indications, without anesthesia, including laparotomies for appendicitis, intestinal obstruction, visceral exploration, colostomy, and intraperitoneal abscesses; amputations of thigh, leg, arm, and forearm; ligature of arteries for aneurism, craniotomy for depressed fracture of the skull, wiring fractured patella by open incision; operations on chest wall, trachea, perineum, prostate, and bladder; herniotomy for strangulation; operations for radical cure of hernia; and intestinal resection. He emphasized the comparatively slight pain usually produced by even formidable operations, and the great tolerance and coöperation of the patients, even children, foreigners, and delirious patients. He stated that the surgeon should always have sufficient reason for withholding the anesthetic, and should always secure the coöperation of the patient if he be of a reasoning age. No restraint is necessary or should be employed. Promise of anesthetic should be given if pain be beyond endurance. Fulfilment of such promise is rarely required. Words of encouragement are amply sufficient for nearly all patients, and information as to the progress of the operation serves to keep up their courage. The experience of the writer in operating without anesthesia extends over a period of ten years, and has been almost invariably satisfactory.

Cancer of the Larynx.

Felix Semon (*Medical Record,* Nov. 5, 1904) says it is of the greatest importance that the diagnosis of laryngeal cancer be made at the earliest possible moment. For this purpose it is most essential that the still prevailing notion—viz., that malignant disease of the larynx is from the first attended by all sorts of grave constitutional symptoms—be completely eradicated, and that the attention of the general practitioner should again and again be drawn to the fact that there are no more promising cases for radical operation than those in which the disease is at first manifested by nothing else than obstinate hoarseness, occurring without any apparent cause, in middle-aged and elderly persons.

Clinical diagnosis arrived at from the history and subjective symptoms of the case, from laryngoscopic examination, from accessory circumstances of importance, such as the patient's age, etc., has reached a certain degree of perfection, and enables us in a good many cases to make a correct diagnosis at an early stage of the disease; it is, however, by no means absolutely perfect, and

occasionally mistakes occur even in the practice of those most experienced.

In these circumstances clinical diagnosis ought, whenever possible, to be confirmed before radical operation of any kind is undertaken, by the intralaryngeal removal and microscopic examination of a fragment or fragments of the new growth. This, however, should only be done if the patient previously consents to immediate radical operation being undertaken in the event of the microscope confirming the clinical diagnosis. Should this be the case the practitioner's position will have been materially strengthened. The microscope, however, is by no means infallible in these cases. Should its evidence be negative or inconclusive, the intralaryngeal removal and microscopic examination of fragments should either be repeated, if necessary, several times, or if the clinical symptoms do not warrant postponement, exploratory thyrotomy should be undertaken.

The intralaryngeal method is from its very nature unsuitable for the radical removal of malignant new growths of the larynx.

Subhyoid pharyngotomy, apart from being applicable in a very small number of cases only of malignant disease of the larynx, is still *sub judice* with regard to its advisability in such cases.

Thyrotomy, if undertaken in suitable cases, and at a sufficiently early period, and if performed on the modern lines which experience has shown to be successful, is a perfect ideal operation in intrinsic cancer of the larynx.

Hemilaryngectomy comes into question only when it is found after opening the larynx that mere thyrotomy will not suffice. When performed it may be accompanied by removal of the tributary lymphatics, even if apparently not diseased.

Total laryngectomy should not be exclusively reserved for extrinsic and for those cases of intrinsic cancer in which both sides of the organ are affected, and in which the disease has proceeded too far to be eradicated by milder measures. When performed it should be accompanied by the removal of the laryngeal lymphatics on both sides of the neck.

Urethral Transplantation from the Ox to the Human Subject.

D. Pringle (*Annals of Surgery*, September, 1904) publishes three cases in which patients with urethral defects have been treated by grafting into their tissues portions of the urethra of the ox. Two of the patients thus treated were men who had sus-

tained a complete and extensive rupture of the urethra in the perineum, and the third was a boy with hypospadias, in whom there was a deficiency of the floor of the urethra along the whole of the penile portion of the channel. The treatment of these three patients represents five operations in which portions of an animal's urethra, varying in length from 2 to 5 inches, have been implanted with success. The grafted tissue, it is stated, lived and formed a patent channel. A photomicrograph of a section of a graft excised from one of these cases in a post-mortem examination after having been in the living tissues of the penis for nineteen months shows a perfect canal lined by a normal layer of epithelium. Reference is made to a case in which Fenwick transplanted a portion of a sheep's urethra for the treatment of intractable stricture, but so far as Pringle is aware this method is quite new in cases of hypospadias. In cases of congenital defect of the urethra this method of implanting a true urethral tube is held to be at least as certain as any other that has been suggested, while the advantage of having a canal ready-made, which can be obtained in unlimited quantity, and which has been developed for the actual purpose of transmitting urine, is a very great one. It is, the author believes, greatly superior to the methods hitherto employed in the treatment of those deficiencies of the urethra which result from traumatic rupture.

The Treatment of Pancreatic Cysts.

A. Villar (*British Medical Journal,* Oct. 29, 1904) in concluding an article on glandular cysts of the pancreas, based on a case under his own care, discusses the surgical treatment of these growths. Total extirpation, it is held, is the logical and ideal method, and is the only kind of intervention that is really useful when the cyst is neoplastic and of the nature of a malignant growth. Unfortunately this operation is a serious one, and the surgeon will often be compelled to have recourse to marsupialization, which, as has been proved by statistics, affords excellent results. The following are the different stages in the operative treatment of a case in which pancreatic cyst has been diagnosed: (1) Laparotomy; (2) exposure of the cyst by successive division of the membranes over its anterior surface; (3) puncture of the cyst and evacuation of its fluid contents; (4) closure of the orifice in the cyst wall by pressure forceps; (5) exploration of the abdomen with regard to adhesions and the relations of the

tumor with neighboring organs. The surgeon has now to decide between two alternatives. If the adhesions can be readily divided and are not very vascular, he should remove the whole of the cyst; if, on the other hand, the adhesions be very dense and very vascular, he should marsupialize the cyst, and if anterior drainage seems to be insufficient, make also an opening for posterior drainage in the lumbar region.

Sterile Water Anesthesia in Operations upon the Rectum and Anus.

S. G. Gant (*Medical Record,* Oct. 29, 1904) describes the good results he has had in substituting plain sterile water for cocaine and other solutions that are in vogue for the production of local anesthesia. The author has been able by its means to operate upon most rectal cases without a general anesthetic or sending them to a hospital, circumstances much appreciated, especially by the better class of patients. Anesthesia apparently is produced merely by the pressure of the fluid on the nerve terminals in the tissues, and sufficient water should be introduced thoroughly to distend the tissues, causing them to become anemic and assume a glassy, whitish appearance, when anesthesia immediately follows. This distention does not require a large amount of water, from 10 minims to half a drachm only being necessary for small hemorrhoidal tumors, and from half a drachm to four drachms in more extensive operations. In introducing the water it is not necessary to use more force than is usually employed in making the ordinary hypodermic injection. In conclusion the writer states that while anesthesia by the injection of sterile water is not effective and cannot be applied in all major operations, he has employed it to the exclusion of general and local medicinal anesthetics in nearly all of his operations upon the rectum (for hemorrhoids, fistula, fissures, etc.), and with gratifying results.

Chronic Prostatitis.

E. G. Ballinger (*American Medicine,* Nov. 12, 1904) says that chronic prostatitis may be the cause of many serious consequences, as sexual neurasthenia, sterility, impotence, and reinfection, it being a favorable nidus for lingering gonorrhea. The symptoms until recent years have been placed under the headings spermatorrhea, azoöspermatorrhea, prostatorrhea, etc., and were

claimed to be of neurotic origin. The literature, except within the last few years, has been both inadequate and misleading because the pathology was unknown. Before giving consent for a patient with an apparently cured gonorrhea to marry, the secretions of the prostate and appendages should be examined. There is no disease in which more information can be obtained from a careful examination of the prostate and secretions. A discharge after urination, defecation, or physical exertion; sexual disorders, no matter how mild; urine passed frequently with slight pain at the end of the act, should always lead to an examination of the prostate. Treatment must be directed to complications as well as to the establishment of proper hygiene for the patient; the prostate should be treated by massage, and heat or cold variously applied. The brilliant results of prostatic surgery should stimulate increased interest in the rational medical treatment of chronic prostatitis.

The Perilous Calms of Appendicitis.

Robt. W. Hardon (*Medical Record,* Nov. 5, 1904) says that defervescence of symptoms and apparent better conditions of the patient do not always mean recovery, but may be forerunners of a dangerous condition. As there is no specific for the disease, no matter what treatment is used, the one who procrastinates should shoulder the responsibility for the death. When a clear diagnosis is made, but one treatment should be advised, that of operation as soon as possible under the conditions, or the golden opportunity may be gone forever. The physician who does not explain the great dangers of delay and the small comparative danger of operation is doing his patient a serious injustice which often leads to fatal results. Operation at the proper time usually greatly shortens convalescence, and eliminates all danger from this cause thereafter. Procrastination is the greater cause of surgical death, operation often being performed as a last resort when little hope of recovery exists.

Deviation of the Nasal Septum.

Jas. S. Gibb (*Journal of the American Medical Association,* Oct. 29, 1904) says that there is no single operation suitable for all cases of deflection of the nasal septum. Each case should be a study unto itself, and judgment of the surgeon must determine the operative measure best suited to that particular case.

The Asch operation is eminently satisfactory in the large number of cases in which the cartilaginous septum is alone deflected.

Osseous deviation and cartilagino-osseous deviations are not suitable for correction by the Asch method.

Deviation of both the cartilaginous and osseous septum offers the most difficult problem to solve, and no one operation meets every indication, but in many cases the Watson-Gleason operation, modified to suit the case, offers a good chance for success.

Careful observation will discover a fair proportion of cases in which the removal of spurs, either cartilaginous or bony, or both, will accomplish the best result; and it is more desirable to attain the result by this method than by the more formidable division of the septum.

There are a certain number of cases which must be classed as inoperable.

Perforations occur in about the same number of cases in all operations in which an entire division of the tissues of the septum is effected.

Deformities After Fracture of the Femur.

P. Ross (*British Medical Journal,* Oct. 22, 1904) reports four cases of deformity after fracture of the femur successfully treated by osteotomy, and to application of a special apparatus. In one case of fracture in the middle third in a man of thirty-nine, the deformity (6½ cm. shortening) was absolutely cured, and the patient was walking about in the apparatus eight days after osteotomy (done three months after the fracture). The chief point in the author's treatment is the application of strong traction (50-60 kilog.), after osteotomy; the traction to be applied directly to the skeleton after the method of Codivilla—that is, fixing a peg into the tuberosity of the os calcis, and getting traction in that way. Beyond some temporary pain this introduction of the peg (which may be kept in from twelve to thirty or more days) does not cause any trouble. Wherever possible the ambulatory treatment gives the best results. The author suggests that even in recent fractures this method is to be recommended. The traction in these cases is to be applied by a Crosby splint, or associated with rigid fixation from head to foot. Each of the four cases reported by the author is illustrated by successful radiographs.

Effect of Direct and Indirect Violence Upon the Skull and Brain.

A. E. Sterne (*Medical Record*, Oct. 29, 1904) says that injuries of the skull and brain may be classed under two heads—those of impact and those of momentum, either of which may be occasioned directly or indirectly. Injuries of impact, however extensive, offer a better immediate and remote prognosis, but must be treated with as little delay as possible and almost always surgically. Injuries of momentum show graver probabilities, both in the immediate and remote effects. In injuries of momentum lesions through contrecoup are more apt to occur, with extensive damage to brain structures, and often without fracture of the skull or external wound. After trauma to the skull and brain the immediate necessity is free drainage and avoidance of intracranial pressure. The possibility of fracture should ever be kept in view after injuries to the head, and scalp wounds should if necessary be freely enlarged to determine the wisdom of further operative interference. Progressive coma after momentum injuries is a strict indication for operation.

Operative Cardiac Massage.

Sick (*Centralbl. f. Chir.*, No. 36) operated on a fifteen-year-old boy for tubercular peritonitis. During the laparotomy respiration ceased, and was not resumed after half an hour of cardiac massage. The author then exposed the heart, which was rhythmically compressed and hot compresses applied. Three-quarters of an hour after cessation of breathing the heart again began to beat and the patient breathed, and within two hours regained consciousness. He died after twenty-four hours from collapse. The author believes that in a case of a strong individual such a method would be indicated as a last resort.

MEDICINE.

The Prognosis of Laryngeal Tuberculosis.

Robert Levy (*Laryngoscope*, October, 1904) says that the prognosis of laryngeal tuberculosis depends on our understanding of its nature, varieties, and its stages. All cases are not hopeless, nor should one cure cause too much optimism.

Laryngeal tuberculosis materially influences pulmonary and general symptoms.

Per contra, it may possess no bearing upon the general course of the disease.

The course of the pulmonary invasion markedly affects the laryngeal complication.

Disturbances of phonation are due to infiltration, to ulceration, or both combined. In many cases the voice may be much improved.

In extreme infiltration where improvement may not be obtained, the process does not necessarily go on to ulceration, or cause general decline.

Disturbances of deglutition may be due to swelling without pain or to pain, namely, dysphagia or odynphagia, and here the character of the lesion influences the prognosis.

Intralaryngeal lesions improve more rapidly than those situated on the epiglottis or aryepiglottic folds.

Early recognition of a primary lesion or secondary complication is essential to a favorable termination.

The patient's environment and his ability to rest his voice influence the prognosis.

Suitable hygienic and climatic conditions are essential to a favorable outcome.

Transudates and Exudates.

Jos. L. Miller (*American Medicine*, Nov. 12, 1904) says that the color of the fluid, the reaction and size of the erythrocytes, are of little diagnostic value. Nucleoalbumin is usually much more abundant in exudates than transudates; however, many exudates fail to show more than a faint trace. On account of the constancy of the salts present, the specific gravity and amount of albumin bear an intimate relation. Fluids from different body cavities of the same individual or fluids of the same origin in different individuals, or successive tappings of the same cavity, may show marked variations in the amount of albumin, probably explained by the permeability of the capillaries, the degree of irritation of the serous surface, the condition of the patient's blood, the tension of the fluid, the blood-pressure. Methods of estimating the bulk albumin, as Esbach's or Purdy's, are not applicable to serous fluids. Reuss' formula is the most accurate, simple method for determining the amount of albumin in serous fluids. The diagnostic value of the specific gravity, or amount of albumin, is

greatly lessened by the frequent presence simultaneously of several processes. A hydremia, as a result of anemia or transudation from pressure, may lower the specific gravity of an inflammatory fluid. Secondary inflammation, high tension of the fluid, or resorption taking place, may increase the specific gravity of a transudate. At present there is no absolutely reliable method for determining the tuberculous character of a serous fluid. The specific gravity of a fluid when taken for successive tappings may be of prognostic value. Epithelial cells in sheets are not infrequently present in fluids of inflammatory origin. The predominance of lymphocytes may be associated with a long standing, simple pleuritis, a hydrothorax, or a tuberculous pleuritis. The presence of relatively large numbers of neutrophiles in pleuritic fluids may be associated with an acute simple or secondary tuberculous pleurisy. The presence of numerous cells, chiefly neutrophiles, suggests an acute simple pleuritis. The presence of numerous lymphocytes, with few if any neutrophiles, indicates that the process is probably a tuberculous one.

In ascitic fluids there is little that is characteristic. Neutrophiles are usually more abundant in fluids, due to portal stasis from cirrhosis, than in tuberculous peritonitis. An eosinophilia in one body cavity may occur along with a neutrophilia in another. A study of the cellular elements in fluids from the pleural or abdominal cavities is of comparatively little diagnostic value either in differentiating transudates from exudates or in determining the character of the latter.

Hysteria in the Male—A Case with Autopsy.

In the October number of the *Journal of Nervous and Mental Diseases,* S. Weir Mitchell and Wm. G. Spiller report a case of uncomplicated hysteria in the male which had been under observation for thirty years and finally came to autopsy. He had been under the care of these and other skilled neurologists, and had long exhibited various stigmata of hysteria. The rhythmic regularity of the "pendulum spasms" of his left arm was most remarkable. Dr. Sinkler once timed it as 157; Dr. Mitchell always found it 160. These continued for some time, then he had rotatory movements. If the swinging arm were seized and firmly held a general convulsion would follow. Voluntary effort to control the spasm only made it worse.

He was a difficult hypnotic subject, and hypnotism exercised

but indifferent influence upon the course of his disease. Cardiac weakness and palpitation preceded his death.

The autopsy only justified the conclusion that "with our present methods the most typical hysteria lasting for years presents no sign of representative organic lesion."

Serum Diagnosis in Primary Tuberculosis of the Middle Ear.

D. Simon (*British Medical Journal,* Oct. 22, 1904) draws attention to the value of the above test in cases of middle-ear disease of uncertain origin. He publishes three cases of middle-ear disease with otorrhea where the serum agglutination test for tubercle was applied, and gave positive results; no other tuberculous lesions were discovered. In another series of control experiments carried out on twenty patients suffering from otorrhea, no serum reaction was obtained. It is said that in tuberculosis the serum reaction is the more marked the earlier the stage of the disease, and that in advanced phthisis the reaction is very slight and often absent. If this be so (and it requires further experiment) the test becomes more valuable as a means of early differential diagnosis.

Method of Demonstrating Tubercle Bacilli in Urine.

D. Trevithick (*Scottish Medical and Surgical Journal,* November, 1904) outlines the following technique: The lower part of the urine which has been resting in a conical glass is pipetted off and centrifugalized. The deposit left in the glass is then shaken up with distilled water, again centrifugalized, and the process repeated. From the final deposit films are made and stained in the usual way. By this method the demonstration of tubercle bacilli is rendered easier. The washing with distilled water is supposed to remove the urinary salts, which prevent the bacilli and even the pus cells from adhering to the slide or cover-slip.

Destruction of Sputum in Homes.

Noetel (*Zeit. f. Hygiene und Infect. k.,* Bd. 48) critically considers the usual methods for the destruction of tubercular sputum in cuspidors, and opposes the use of dried substances in these receptacles. He believes it more rational to use moist

material and combustible receivers. To destroy the infection and sputum on the clothing he advises exposing it to the action of 180 cubic centimeters of formalin and 700 cubic centimeters of water, placing the solution with the clothing in a closet for five hours. This method is cheap, and especially adapted to such cases where frequent disinfection is necessary.

Changes in the Nails in Scarlet Fever and Measles.

Feer (*Münch. med. Woch.*, No. 40) finds the changes in the nails in typical cases of scarlet fever to be as follows: Four to five weeks after the onset of the scarlet fever a lineal furrow appears over the root of the nail, and in certain cases small projections are found. This line in the course of half a year reaches the free end of the nail. These changes are most decided in the thumb nails, and are particularly noticeable in well developed nails. This condition, though not so marked, is present in cases of measles.

Pus in Gonorrhea.

Posner (*Berliner klin. Woch.*, No. 41) in his studies of gonorrheal pus finds that the vacuole formation in the pus cells is not significant of old infections, as he has often found them from the second to the seventh day. As a distinguishing feature of an advanced infection he calls attention to the fact that the occurrence of numerous eosinophile cells is indicative of a gonorrhea of from four to six weeks' standing.

THERAPEUTICS.

Treatment of Benign Ulcerations of the Bowels and Anus.

S. G. Gant (*American Journal of Surgery and Gynecology*, November, 1904) says that the line of treatment to be selected in anorectal ulceration depends upon the general health of the patient and the cause, number, size, and location of the lesions. Patients who are debilitated require tonics and a nourishing diet, including plenty of eggs, milk, beefsteak, chops, and similar nourishing foods, but highly seasoned and fried foods, pastries, alcoholic, ice-cold, and carbonated drinks should be prohibited.

Antisyphilitic and antitubercular remedies should be prescribed if indicated, and in cases of dysenteric ulcers, ipecac in large doses can frequently be administered to good advantage.

The superficial ulcers frequently encountered in the lower rectum may be speedily cured by securing soft evacuations with Carabana water (three ounces each morning); frequently cleansing the parts, and applying locally, with cotton or gauze, a solution of ichthyol, 10 to 50 per cent; nitrate of silver, 4 per cent; sulphate of zinc, 4 per cent; or balsam of Peru.

Deep ulcers, or those which do not yield to the above treatment, should be cauterized with the galvanocautery, stick-silver, copper sulphate, pure ichthyol, or carbolic acid, and if necessary the sphincter muscle should be divulsed or divided to secure rest of the parts.

Extensive ulcerations higher in the rectum or in the sigmoid are treated by regulating the stools and spraying or irrigating the bowel with weak astringent solutions. If this does not prove effective, the bowel should be irrigated through the colon-tube every other day with nitrate of silver, 30 grains in a pint of water, followed by normal saline solution, if there is much pain. On the alternating days an emulsion containing 1 drachm of subnitrate of bismuth, 10 grains of iodoform, and 4 ounces of olive oil; this oil emulsion is very soothing to the mucosa and will be retained for many hours, while the other solutions remain in the bowel but a short time. After two weeks the silver nitrate solution is replaced by enemata containing half an ounce of fluid extract of krameria, half a drachm of biborate of soda, and one pint of water.

In some instances it may be necessary to curette and cauterize the ulcerated surfaces with the Paquelin cautery, and where all other treatment has failed an artificial anus should be established in the left inguinal region, thus insuring rest to the parts, preventing irritation by the feces, and allowing the ulcers to be kept clean and treated by direct applications and irrigations, both from above and below.

Local Anesthesia of Inflamed Tissues by Injection of Cocaine-adrenalin.

M. Riballier (*British Medical Journal*, Oct. 22, 1904) shows that adrenalin markedly increases the analgesic property of cocaine. The subcutaneous injection of a mixture of cocaine and adrenalin into healthy tissues produces a remarkable anes-

thesia, and this mixture has the further advantage of acting well upon inflamed tissues, whereas cocaine alone has little action. The injection of the mixture produces an intense local vasoconstriction, together with a rise of arterial tension and slowing of the pulse-rate. No respiratory trouble nor nervous symptoms have been observed. The toxicity of the mixture is nine or ten times less than that of cocaine. He advocates a mixture composed of 10 cubic centimeters of a solution of hydrochloride of cocaine, 1 in 200, and 10 minims of adrenalin, 1 in 1000. Similar precautions to those for the injection of cocaine only must be employed. Anesthesia by this method is indicated in all operations of minor surgery, but particularly in those involving inflamed tissues. It is contraindicated in cases requiring more than 10 cubic centimeters of injection in young infants, and in cardiac insufficiency; and especially in those suffering from angina pectoris, lest the rise in blood-pressure should determine an anginal crisis.

Intramuscular Injections in Infantile Syphilis.

A. Invercool (*Semaine Médicale,* June 22, 1904) recommends the intramuscular injection of a five-per-cent solution of perchloride of mercury in cases of infantile syphilis. The author points out that administration by the mouth is often contraindicated by gastrointestinal disturbances, and that the method of inunction is liable to cause irritation of the skin. He has used the injection treatment with success in forty cases of infantile syphilis. The number of injections was three to five.

Newer Conceptions of the Management of Bright's Disease.

A. C. Croftan (*Journal of the American Medical Association,* Nov. 12, 1904) considers Bright's disease as a cardiovascular disorder of manifold origin, involving primarily the heart and arteries, secondarily those organs chiefly supplied by end arteries, namely, the brain, the retina, and the kidneys. The degeneration of the kidneys therefore is a very common and important, but not a determining, feature of the disease. Bright's disease in early stages not infrequently occurs without renal involvement. Primary nephritis with the retention of excrementitious bodies may occasionally be a cause of the cardiovascular changes. This sequence of events, however, is relatively rare. The manage-

ment of Bright's disease should be directed toward the prevention or removal of factors operative to affect the heart and arteries. The treatment of the nephritis is incidental, but important. He discusses the rest cure of the kidneys, diet (dangers of exclusive milk feeding), hygiene, and medicinal treatment on the basis of the above conceptions.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

Convergent Strabismus.

Wendell Reber (*New York Medical Journal,* Nov. 5, 1904) says that esotropia is most likely to manifest itself before the end of the third year.

It cannot yet be said whether any of the various reasons assigned by parents for the appearance of strabismus have aught whatever to do with it. Whooping-cough may be related to it.

Heredity certainly plays a part in bestowing upon some children a congenitally deficient visual apparatus.

The degree of deviation will average about 30° in a large number of cases. It is in no special way bound up with the degree of refractive error.

The amblyopia of esotropia is presumably an amblyopia ex anopia, the present-day evidence being against Shweigger's theory of a congenital amblyopia.

The degree of amblyopia increases with the length of time elapsing between the appearance and the time of treatment; especially is this true after the seventh year.

Improvement may be expected in the amblyopic eye in fifty to sixty per cent of cases by properly adjusted glasses. This improvement varies from twenty per cent to ninefold betterment.

While a defectively developed fusion apparatus has much to do with the genesis of esotropia, the influence of hypermetropia and its allied states seems almost as important as in the days of Donders. The part played by astigmatism is no little one.

There seems to be no special relation between the degree of refractive error and the degree of deviation.

Hypermetropic conditions of from one to four diopters seem most commonly associated with esotropia.

A very high degree of hypermetropia does not necessarily exclude strabismus, as three cases in the series here presented were of 11D. and over.

If taken before the fifth year, there seems no reason why the strabismus should not be cured by non-operative methods in seventy per cent of cases. This percentage will, in all probability, be increased to eighty per cent in the next ten years.

The results of non-operative treatment in children, if adhered to with any persistence, are infinitely better than any "scissors" statistics thus far offered.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Primary Chorioepithelioma Malignum Outside of the Placental Site.

P. Findley (*Journal of the American Medical Association,* Nov. 5, 1904) says that twenty-one cases of unmistakable chorio-epitheliomatous tumors have been observed in locations remote from the placental site. No direct anatomic connection between the tumor and the placental site was demonstrable.

These tumors have arisen while a fetus or hydatidiform mole was *in situ,* and at varying intervals of days and years following abortions, labors, and the expulsion of hydatidiform moles.

The vagina was believed to be the primary seat of the tumor in 50 per cent of the cases; the uterine musculature in 15 per cent; the cervix, brain, kidney, and labium, each 5 per cent. It was not always possible to identify the primary growth.

In all cases the growth presented the appearance of blood coagula, and was only identified with certainty by the aid of the microscope.

Nothing definite is known of the histogenesis. The degree of resistance of the invaded tissues probably determines the malignancy of these growths.

Microscopic examination of the tumor will demonstrate the presence of chorionic tissue, but will demonstrate nothing as to the malignancy of the growth.

In primary vaginal and cervical growths it has been possible

to make a highly probable diagnosis by a consideration of the history of the previous pregnancy, the occurrence of hemorrhage from the vagina, and by inspection of the tumor. The positive diagnosis was reserved for the microscope.

Sixty per cent of the cases occurred between the ages of thirty and forty-one. The earliest was at twenty years of age, the oldest at fifty.

Hemorrhage is the one constant symptom in the growths of the vagina and cervix, and should always arouse suspicion when occurring weeks, months, or years after the termination of pregnancy, abortion, or hydatidiform mole. The possibility of these growths occurring during the course of pregnancy must be borne in mind.

After the recognition of the primary growth outside of the placental site, an exploratory curettage is done and the scrapings examined by the microscope. If syncytial tissue is recognized, the uterus should be removed. Inasmuch as we are unable to judge the malignancy of the scrapings from the uterus in such cases, it would seem wise to anticipate the existence of a malignant growth by removing the uterus.

The malignancy of these growths can only be determined by the remote results. If the individual makes a permanent recovery after the removal of the primary growth, we are at a loss to know whether the growth was malignant.

It is necessary to give a guarded prognosis in all cases, because of the uncertainty as to the existence of metastatic growths and the inability to differentiate a benign from a malignant growth.

Infections of Umbilical Origin in the Newly-born.

C. F. Soles (*Archives of Pediatrics,* October, 1904) says that whenever fever occurs in the first week of life the physician must be careful to examine the stump of the cord or the cicatrix in order to determine whether an umbilical infection exists. The beginning of the umbilical infection is characterized by a slight swelling and tenderness of the stump of the cord together with some redness in the edema of the surrounding parts, and by a disagreeable odor of the affected cord. The child becomes feverish and may be seized with convulsions. The fever and the other general symptoms are often more marked than might be expected from the slight local changes, owing to the fact that the organism of the newly-born reacts so readily with fever against infection.

In some cases septic absorption may go on from the cord with scarcely any inflammatory signs at the point of entrance. It is very important therefore that the cord be carefully watched and that the dressing should include the use of astringent and antiseptic powders, such as dermatol and salol. When infection occurs the stump of the cord should be treated with the same remedies, but if the cord has already separated the scar should be washed with boric acid solution or with sublimate, and then should be touched with silver nitrate.

Cæsarian Section for Placenta Previa.

F. D. Donoghue (*American Journal of Surgery and Gynecology,* November, 1904) says that the operation should be performed through the left rectus muscle. Incision of the uterus is not usually followed by hemorrhage, even when the broad ligaments are not constricted. Time should be allowed for contraction and retraction of the uterine fibers before attempting to remove the placenta. If sufficient time be given for this to occur, no blood will be lost from beginning to end of operation, and if severe hemorrhage has preceded operation the abdomen can be filled with saline solution before it is closed. The shock of such an operation is certainly not greater than that of version or forceps in a woman already exhausted. Within a few minutes of starting all the indications of treatment—emptying the uterus and controlling the hemorrhage—will have been fulfilled.

Ovary in Femoral Hernial Sac.

A. Keiffer (*Bull. de la Soc. belge de Gyn. et d'Obstet.,* November, 1904) related the case of a woman who consulted him for a tumor in the right groin. It looked like a hernia, but on palpation felt unlike either an enterocele or an epiplocele; indeed, it simulated to a great extent a collection of inflamed glands. Keiffer operated, and exposed a hernial sac adherent internally to a mass of fat surrounding a firmer body—in fact, an ovary enveloped in thickened omentum. The displaced organ was removed, the omentum resected with the sac, and the crural canal closed. The ovary was as large as a big almond and extremely sclerosed; it contained some atrophied corpora lutea and a small follicular cyst of the size of a pea. The patient stated that she had felt increased pain in the hernia, with swelling and redness, at each period.

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ORIGINAL CONTRIBUTIONS.

SOME REMARKS ON THE RECIPROCITY MOVEMENT.

BY EMIL AMBERG, M.D., DETROIT, MICHIGAN.

The movement toward uniform medical legislation presents so many sides and is so directly interwoven with almost all phases of medical life that a short review of the same is not only interesting from a historical point of view, but of importance for the future development.

While taking postgraduate courses in Berlin, during the winter of 1897-98, I learned that the Prussian government decided not to allow American physicians to participate as students in the clinics. This seemed to me a question of very great importance, because there existed only two sides to the question: The decision of the Prussian government was based either on prejudice or else on well-founded reasons reflecting upon the training of American physicians. In either case only good could result by following up the matter. I communicated with Hon. Andrew D. White, our illustrious ambassador, who took a great interest in the matter, as part of his correspondence with me proves:

EMBASSY OF THE UNITED STATES OF AMERICA, BERLIN.

September 8, 1897.

I have read the extract from the *Vossische Zeitung* with care, and I agree with you in thinking it of much importance.

I am not at all sorry to see some such measure adopted in Germany as this indicated in the article you send me, for I think that regulations of this sort, carefully made, are beneficial to both countries concerned.

During my former residence here as Minister I put an end to the conferring of worthless degrees by a sham university in Philadelphia, and though it cost me much trouble and brought some annoyances, I have felt amply repaid.

So in this case I will gladly do what lies in my power to promote some such plan as that which you wisely suggest, namely, proper means of discrimination between men bearing degrees in medicine from institutions like Harvard, Johns Hopkins, and others, which maintain the proper standard, and institutions which have not reached any such plane.

I shall be very glad to hear from you further at any time on the subject, etc.

(Signed) ANDREW D. WHITE.

EMBASSY OF THE UNITED STATES OF AMERICA.
At present VILLA LANDOR, FLORENCE, ITALY.

November 22, 1898.

As to the general subject, I had several conferences with the Rector of the University of Berlin last year, and furnished him a very large amount of material, together with schedules carefully drawn up, in order to suggest a proper discrimination between universities and colleges in the United States which deserve recognition in Germany and those which do not, and I hope that the result will be favorable to the ideas which you advocate.

(Signed) ANDREW D. WHITE.

After paying more attention to medical conditions, it appeared to me that something was radically wrong, and day after day the anomalous state of things became more clear to me. It also appeared to me that somebody should do something.

After the Medical Practice Act had been passed in Michigan, the idea was advocated of having the right to practice medicine extended beyond the limits of the State. This idea was not new by any means, as it is well known that it was one of the main objects of the National Confederation of State Medical Examining and Licensing Boards. An opportunity had come to follow up the subject which presented itself in Berlin, although on a somewhat different plan. The Wayne County Medical Society, of Detroit, appointed a committee, of which the writer was made the secretary. It became at once apparent that the subject-matter was of very great significance, not perhaps in so far as immediate results were concerned, but for the reason that it would, if properly handled, form in all its parts a mighty instrument to exercise a powerful influence upon medical education and medical conditions in general.

The medical literature at that time admitted that a chaos existed, and in order to insure even a slight success we were obliged to proceed with the greatest care. It seemed necessary to create sentiment for the movement by presenting to the eyes of the medical profession, and incidentally to the laity, the advantages of such a movement, in simple and great outlines, and to avoid paying attention to some details, as in all probability such a procedure would have prevented any progress. It is a matter of experience that people who cannot grasp the idea of a great problem, or who enter only superficially into a subject, are very apt to lay unduly great stress upon minor details, which usually adjust themselves if the main subject is well

taken care of. By paying too much attention to minor details time and energy is wasted, the main object is placed in a wrong light, and progress is retarded.

The medical press became interested in the movement, as is evinced by the numerous articles from 1899 until to-day. The author had advocated that some States unite into groups to further the movement. The formation of the New England Confederation of State Medical Examining and Licensing Boards was a decided step in advance. Later on, through the efforts of Dr. B. D. Harison, of Sault Ste. Marie, the American Confederation of Reciprocating Examining and Licensing Medical Boards was formed, and since then the movement made another most important step in advance.

After the impossibility of establishing a National Examining Board, at present, had been demonstrated, the interstate recognition of medical licenses as the only means toward progress became more apparent. While it is, in the writer's opinion, perfectly proper for medically weaker States to accept the certificates of medically stronger States without asking for mutual recognition, we should not lose sight of the fact that the reciprocity movement contains the very essential factor of comparison. The demand that equally well trained physicians should be found all over the country, and only well trained physicians, seems to be recognized as justifiable. It should be possible to have reliable examining and licensing boards of high standing in each political division.

The physicians of the country should be allowed to be physicians in any part of the Union after they are once licensed. We know that a generally acceptable license can be issued only upon generally acceptable requirements. The requirements can be made uniform to a degree which is satisfactory for practical purposes. It is recognized that this uniformity must be based on uniformity of entrance and graduation requirements and upon uniformity of examinations. The tendency on the part of the State Boards to control these three factors becomes daily more apparent.

Many State boards are earnestly and strenuously working toward uniformity of entrance, graduation, and examination requirements. Freedom from prejudice and great and conscientious efforts are required from all who concern themselves with the problem. The objection that an undesirable element might take advantage of the reciprocity privileges is amply

dealt with by a resolution before the American Federation of Reciprocating Boards, which will provide for a plan to eliminate any danger from this source (*Journal of the American Medical Association,* Nov. 5, 1904). The movement has called attention to existing shortcomings, it has already accomplished a great deal of good, and it has pointed out the way for the future.

THE MEDICAL ASPECTS OF THE ONEIDA COMMUNITY.

BY J. HOWE ADAMS, M.D., PAOLI, PA.

The various problems in life have been attacked in various ways; especially has the commune idea been tested in all its phases. It has been tried as a socialistic venture, as an expression of religious thought, as the vagary of literary minds, and as a haven for criminals or unfortunates. These movements have been at times tremendously successful: for example, within three years the world has seen the latest venture at Zion City, where John Alexander Dowie, "First apostle of the Lord Jesus the Christ in the Christian Catholic Apostolic church," is the guiding star. To read the utterances of this "Prophet of the Restoration" suggests the query as to the narrow line between sanity and lunacy. Many a paranoiac has uttered statements not more fantastic or incoherent. The difference seems to lie in the fact that Dowie has the power to impress his views on multitudes of minds. He has seventy-three thousand followers who believe in him blindly; this is seen even in political matters. Prophet Dowie issued a proclamation for his people to vote for Roosevelt; in a vote of eleven hundred, one thousand and seventeen were cast for the Republican candidate, Zion City's vote being a unit for President Roosevelt. A man who can command men in this way must, even if a paranoiac, have most extraordinary mental ability.

Communities have been purely literary in basis, such as the Brook Farm venture in Massachusetts; others have been the communities of negation, such as the Shakers, founded by Ann Lee, really communities started largely to reduce expenses. But of all, probably the most unique, the most startling, and one of the most successful is the so-called "Oneida Community." I shall take up its doctrines as originally promulgated by its founder, John H. Noyes, and study them from the physician's standpoint. Nowadays his peculiar views have been stamped

out by legislative action, and while the community idea still exists and the association is wealthy, it has been forced to abandon the original views of Noyes, for the practice of which he started his community.

The popular idea in reference to the "Oneida Community" is that it practiced "free love." Free love is explained in the majority of minds to be an abandonment to indiscriminate sexual intercourse on a large scale. This statement is wholly incorrect; in reality it was far more. In order to show what it was I shall take up the history of the community in sequence.

The Oneida association was located in a secluded valley on the Oneida creek in the towns of Lennox and Vernon, in the counties of Madison and Oneida, New York, half-way between Utica and Syracuse. The land had been held until 1840 as a reservation for the Oneida Indians, and was purchased at this time by the State and sold to settlers. Here gathered on November 26, 1847, some men who began the formation of a "heavenly association" in pursuance of the commands of a set of resolutions formulated two months before at Genoa, N. Y., by so-called "Perfectionists." At this time John H. Noyes, a graduate of the Yale Theological Seminary, was having troubles with his neighbors at Putney, Vermont, because of his peculiar social views. He had started at this point in 1838 the so-called "Putney Community," and had gathered a few followers, until his family numbered forty. He had worked out the idea of a community of property, households, and affections. In 1847 he was driven from Putney by his neighbors and wandered to New York City. He was invited to come to Oneida, and as a result the present association was formed by a union between Jonathan Burt and John H. Noyes. At this time New York State seemed in a tumult of social unrest; there were great conventions of Spiritualists, of Ascensionists, etc., which fascinated and enthralled the public mind.

The community grew rapidly, building after building was erected, and the people rolled in. This paper has nothing to say in reference to the problem of labor and finances which they attacked, except to say that the community prospered in a worldly sense. The arrangement of the households was noteworthy: the best houses were converted into nurseries, and all the children between two and twelve were established here. The younger children were kept by themselves; the women of the community served as attendants on the children in rotation for

short periods only; the children were treated as the offspring of the community, as they were literally. So with the question of food, there was at first a common table where all were served alike. The community was certainly as near its ideal as anything could be made on this mundane sphere.

Noyes had a love for high-sounding words and meaningless phrases, and in his various writings he always prefaced his real views and declarations by long-winded declamations on religious subjects which in their blasphemy, their irreverence, and audacity suggest strongly the writings of the present Elijah III., the famous Dowie. He took up the question of religion in all his proclamations, circulars, etc., in many phases, all to point his views. Truly the devil can quote scripture for his purpose!

Noyes carried the idea of property to its fullest extent, to include the bodies of his followers; even no account was kept between the members and the association at first.

In 1848 Noyes sprung on a startled world his "theory of the sexual relation," which he had been preparing for fourteen years. It was based on twenty-five propositions, each one fortified by liberal quotations from the Bible. Noyes claimed to be intensely religious, and based all his views on holy writ, as did all his followers. His first idea was the question of the relations of the sexes in the kingdom of heaven, from which he stated the Bible predicts the coming of the kingdom of heaven upon earth. He shrewdly acknowledged that we do not know the institutions of the kingdom of heaven. Yet he was not discouraged, but started to propound them to his own satisfaction. Quoting Matthew xxii, 23-30, he claimed that the institution of marriage which assigns the exclusive possession of one woman to one man does not exist. He claimed that sexual distinction and sexual intercourse are not excluded from the heavenly state. His argument on this point is not clear nor convincing. From this point he argued that marriage is a failure, that it does not exist in heaven, and therefore should not exist here below.

The gist of Noyes's argument is not reached, however, until he wrote his seventeenth proposition, in which he divides the sexual relation into two branches, the amative and the propagative. He believes the amative or love relation to be first in importance, because God made woman because "he saw it was not good for man to be alone." Propagation and the

affections connected with it did not commence their operation during the period of innocence. After the fall God said to the woman, "I will greatly multiply thy sorrow and thy conception," from which Noyes inferred that in the original state conception would be comparatively infrequent. As a consequence Noyes determined to return to the original order of things and have children when intended, and at other times to stick closely to the amative side of the question. He advised his followers to avoid the propagative act except when procreation is intended, and use their sexual organs simply as "the servants of their spiritual natures." He aimed to make "the habit of sexual intercourse a quiet affair like conversation, restricting the action of the organs to such limits as are necessary to the avoidance of the sensual crisis." Having reached this point in his argument Noyes allowed his mind to soar. He believed that society can be trained in these principles so that "amative intercourse" will become a "fine art" and become "a method of ordinary conversation, and each will be married to all." He went still further, and believed that communion in the churches will be solemnized in this way.

Noyes taught that this mingling of the sexes would make labor attractive. As with other "reformers" he advised a change of dress in women, the present form being inappropriate and immodest. He suggested, and it was adopted, that men and women dress nearly alike, which was done in the community, the women also cutting off their hair. He acknowledged that his doctrines are dangerous to the uninitiated, but he warned them not to play with fire.

Astonishing as it may seem, this publicly proclaimed doctrine drew converts from the start. Men and women flocked to the Oneida valley and published the most glowing account of their experiences, all apparently based on the strictest views of religion and modesty. It is marvelous to read the testimony of these men and women and note that they apparently believed what they said.

After a study of John H. Noyes and his doctrines for thirty years I believe that he was a man who possessed a tremendous sexual appetite with an equally intense religious nature. This religious feeling was not of the deeper sort which sought what was right, but was rather of that formal nature that forced the texts of holy writ into constructions that met his own view. Undoubtedly the Oneida Community was a brilliant scheme to

practice unlicensed, wholesale sexual indulgence under the guise of an alleged religious movement.

This movement is interesting from the physician's standpoint as an attempt to solve the problem of the sexes. Unfortunately for Noyes the good people of New York State did not relish his ideas any more than did the people of Vermont, and in a short time he called down upon himself the wrath of an outraged community. He did not have the foresight to discover a new Bible under a stone and depart into the wilderness with his various wives as did Brigham Young, and so his peculiar views were suppressed, and the "Oneida Community" to-day is compelled to get along without that gentle means of universal conversation which the fantastic Noyes sprung on a community supposed to be composed of sane people.

In criticizing Noyes's plan it can be attacked from several points of view—the religious, the social, the moral, the medical, and the biological. From the physician's standpoint it is interesting to note that, contrary to ordinary belief, there has always existed an idea of marriage from the earliest times and among the most savage tribes. In the masterly work by Westermarck on the "History of Human Marriage," he proves beyond all doubt that marriage ties are found everywhere. By contact with a so-called higher civilization, tribes have sunk into immorality or debauchery, but in their natural state they have practiced definite forms of marriage. By marriage I mean a more or less durable connection between male and female lasting beyond the mere act of propagation until after the birth of the offspring. It is common among many of the lower animals; it occurs as a rule among anthropomorphous apes; and it is universal in mankind. Many anthropologists had believed promiscuity or communal marriage, such as taught by Noyes, to have existed in prehistoric times, but Westermarck proves this hypothesis unscientific. When it has existed, it has been due to exceptional conditions. It is true that in certain nations polygamy exists, but it is not communal marriage. Again, polyandry may exist, one woman with several husbands, but this condition is rare, and the first husband is the chief husband. Polygamy is due to various causes—barrenness of women, desire for servants, as an expression of wealth, etc.—but the tendency of the age is toward monogamy. Noyes's experiment was an unnatural expression of human nature, which died, so far as its "free love" was concerned, almost as soon as it was born.

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EDITORIAL ARTICLES.

THE SERUM TREATMENT OF CANCER.

As is well known, Adamkiewicz, of Vienna, still upholds the parasitic origin of cancer, and is engaged in testing a method of treatment devised in accordance with this conception of its nature. A report of a further number of eighteen cases treated in accordance with his views affords an opportunity for recording the results so far achieved.

Adamkiewicz considers carcinoma a parasitic affection, and a special toxin which he has isolated from cancer juice he designates cancroin. From a chemical standpoint this cancroin consists of a base of trimethyl oxide of ammonium in double combination with phenol and citric acid. The treatment consists of subcutaneous injections beginning at one-half a cubic centimeter and increasing to a maximum of two cubic centimeters. The dose and the number of injections are regulated by the reaction phenomena. Generally the effects are speedy, and the first interventions manifest the results of the remedy.

Adamkiewicz's last list of cures comprises seven cancers of the heart, two of the uterus, two of the intestines, two of the stomach, and five cases at various sites. His experiences in uterine cancer were particularly happy, and in some the cure seemed to leave nothing to be desired. His two cases of intestinal cancer and two cases of stomach cancer were wonderfully ameliorated by treatment.

It is deemed certain that cancroin has an undeniable action on cancer, whether the seat of it be internal or external. Adamkiewicz has not, however, claimed that his method is efficacious in all cases. His modest claim is simply that his serum possesses some power in eliminating the parasite which is the

cause of the tissue degeneration known as cancer, and that its least happy result is to prolong life. It is certainly something when the physician finds himself in the presence of this inexorable foe to have at his disposal a means of treatment which is never injurious and appears in many cases to hold out hopes of cure.

EDITORIAL NOTES.

An Exhibition of Quackery.

Germany, which prides herself in being in the forefront of all that is scientific in medicine, also appears to lead the race in the matter of quackery. An investigation made throughout the German Empire from 1899 to 1901 revealed some significant facts. In Berlin in 1879 there were 29 known quacks, a proportion of 0.2 per 1000 population; in 1888 the number had risen to 227 (1.5 per 1000); in 1894 to 335 (1.9 per 1000); in 1897 to 476 (2.7 per 1000). In 1902 official statistics show that there were in Berlin, including Charlottenburg, Schoneberg, and Rixdolph, 937 quacks, a proportion of 4.34 per 1000 inhabitants. The number of qualified physicians in the same area was 3268.

At Frankfort-on-the-Oder there were nearly as many quacks as physicians; to speak by the card, there were 251 of the former and 294 of the latter. In the same year there were in the whole of Prussia 15,400 doctors and 4104 quacks. So serious has the evil become that a society was some time ago formed in Berlin for its abatement. This society, as a part of its campaign, organized an exhibition of quackery, which was recently held in Breslau. In that exhibition was displayed the whole of the apparatus of quackery grouped in a number of sections—advertisements of all kinds of panaceas and specifics, illustrations of various methods of treatment "without poison" and "without operation," quack institutes, "nature-healing," "faith-healing," *et hoc genus omne*. The advertisements are subdivided into classes—those of the type familiar to all readers of newspapers, circulars, prospectuses, pamphlets, testimonies of cure.

The secret remedies formed one of the most interesting exhibits. There was to be seen the specific of a shepherd who diagnosed the disease from a lock of the sufferer's hair, and in this way made a large fortune; there, too, were an oil which

was said to restore hearing to the deaf, a universal gastric juice, water impregnated with negative electricity, and countless other panaceas. In another section were an "invisible audiphone," an "antiepidemic mask," chains said to afford protection against gout, and all kinds of bogus electrical apparatus. The literature of "nature-healing" made a formidable show; it appears that the "works" of Bilz, Platen, and other hierophants of this cult command a large sale.

The profession of this country has reason to congratulate itself that quackery has not reached that high state of perfection which obtains in the Fatherland.

The Lust for Operation.

At the recent annual meeting of the New Zealand branch of the British Medical Society a Dr. Hatherly read a paper under this title. The writer said that it was a melancholy fact that too often surgeons perform operations for the mere "love of the thing," which practice he thought was on the increase. The writer said that many operations for appendicitis were performed when the patient would have recovered nicely under medical treatment. Hatherly said that operations were often performed solely for the sake of the fee, it being much more profitable to operate than not to do so. We were not aware that the "lust for operation" had reached to such a distant part of the world as New Zealand, but we have been fairly well acquainted with it at home for some years past. It is to be sincerely hoped that the future will see a more conservative attitude in regard to operating than at present exists.

Medical Military Attaches.

The world-wide admiration which the Japanese have aroused by the conduct of their medical department in the present war with Russia has caused the authorities at Washington to detail a medical officer to their army to observe and note the methods pursued by them. Much good may be looked for from his report, for here will be an opportunity for studying, under the poor sanitary and climatic conditions that exist in Manchuria, such diseases as typhoid fever, cholera, dysentery, bubonic plague, and beriberi. From the standpoint of preventive medicine much valuable data will doubtless be obtained.

ITEMS AND NOTES.

YELLOW FEVER is said to have broken out in Cuba.

IT is reported that cholera is sufficiently prevalent in Russia to cause apprehension of an epidemic.

DR. ANTON JULIUS CARLSON has been appointed associate in physiology at the University of Chicago.

DR. E. J. BROWN has been appointed professor of histology in the Chicago Eye, Ear, and Throat College.

EVERY physician of Montreal is now compelled to register the births occurring in his practice within forty days.

HACKLEY HOSPITAL, Muskegon, Mich., was dedicated November 17 with a gift of $220,000 by Charles H. Hackley.

AN epidemic of the itch is said to have broken out on the south side of Chicago, seventy cases having been reported on one day recently.

A BILL has passed the Danish lower house, presented by a cabinet minister, awarding a pension of nearly $1000 to Finsen's widow.

SMALLPOX is endemic in the Bombay Presidency, according to the last report of the United States Public Health and Marine Hospital Service.

DR. YERSIN has resigned the position of director of the Medical School of Hanoi to become head of the Pasteur Institute of Nha Trang.

A PETITION is being circulated among Chicago physicians asking for a special act of Congress incorporating the American Medical Association.

THE Liverpool School of Tropical Medicine proposes to despatch a second yellow fever expedition to the Amazon to investigate still further this disease.

DURING October 325 cases of typhoid fever were reported to the bureau of health of Philadelphia, an average weekly rate of about 6.3 cases per 100,000 population.

Fraulein Elizabeth Foellinger, M.D., who has recently settled at Karlsruhe, is said to be the first female practitioner who has adopted the specialty of bath physician.

The sanitary condition of the New York Subway will be officially investigated under the direction of the Board of Health by Prof. Charles F. Chandler, of Columbia.

The fifth New York State Conference of Charities and Correction was held at Syracuse, November 15 to 18, 1904, under the presidency of Robert W. Hibbard, Esq., of Albany.

Creighton Medical College, Omaha, has been notified that a gold medal has been awarded the pathologic and histologic exhibit of the college at the Louisiana Purchase Exposition.

Dr. Francisco de los Cobos, a well known hospital physician of Buenos Ayres, is now in Spain as representative of the scientific societies of Argentina, seeking the support of the Spanish government for the creation of a Hispano-American University.

At the annual meeting of the Chicago Surgical Society, recently held, the following officers were elected for the ensuing year: President, Dr. L. L. McArthur; secretary, Dr. William Hessert; treasurer, Dr. F. A. Besley; members of the council, Drs. Arthur Dean Bevan, A. J. Ochsner, E. Wyllys Andrews, and Jacob Frank.

The appeal to the Danish people for subscriptions toward the cost of a monument to the late Professor Finsen bears some 1400 signatures. The list is headed by the name of Mr. Vilhelm Joergensen, president of the Light Institute of Copenhagen, and includes the name of all the ministers, the members of the Rigsdag, and the editors of all the newspapers in Denmark, and of many patients cured by the treatment.

An exchange states that it was hardly to be expected after the skilled surgical assistance rendered to the Ameer of Afghanistan for his recent accident that he would be content to rely on his own Afghan medical men in the future, and it is now reported that he has intimated his desire for expert English medical men to be stationed at Kabul. The staff suggested is one medical officer, one lady doctor, and three hospital assistants, with a small compounding staff. The government of India has the matter under consideration.

The French Medical Congress will meet next year in Belgium, at Liege. Professor Lepine, of Lyons, has been elected president, and Professors Masius and Francotte, of Liege, vice-presidents. The following are the questions proposed for discussion: (1) General pathology: the part played by pancreatic secretions on pathology. (2) Special pathology: clinical forms of chronic rheumatism. (3) Therapeutics: no salt diet. Owing to the meeting of the International Medical Congress at Lisbon in 1906, the French Medical Congress will not be held in that year. The meeting in 1907 will take place in Paris.

The last summer was an unusually hot season in Europe, but the infant mortality in Berlin was, according to an exchange, kept below the average by vigorous efforts to insure a good milk supply. The total number of deaths during the summer months of children less than a year old was 4425 in 1900, 4454 in 1901, and 3522 in 1904. About 60,000 circulars on the care of infants were distributed, and 48 veterinary surgeons formed a volunteer force to supervise conditions in dairies. The total infant mortality for the year will probably range about 10,000, but in 1900 it was 11,762. The population of Berlin is about 1,900,000.

Every one, says a contemporary, witnessing a military review in Germany or Austria for the first time must have been impressed by the peculiar stiff-kneed, slamming step adopted on parade by the infantry. At the Congress of Naturalists and Physicians which recently met in Breslau, this "goose-step," as it is popularly called, was strongly condemned. Dr. Thalwitzer read a paper on the subject in which he showed that the adoption of this ridiculous step accounts for numerous knee and foot complaints among the troops. Sixty per cent of the sores on the feet of the men are a consequence of persistent adherence to this antiquated step.

An exchange discussing sleep says: "Cervantes calls it 'meat for the hungry, drink for the thirsty, money that buys everything.' Keats regards it as the 'great key to golden palaces,' and Shakespeare as 'Nature's soft nurse,' and 'sleep that knits up the raveled sleeve of care;' while Young characterizes it as 'tired Nature's sweet restorer.' It is health's greatest promoter and one of the surest guarantees of happiness. Money is desirable, wisdom should be acquired, friends are to be cherished, but these without blessed sleep would be but so many mockeries. The lesson then

is to live that sleep will be a constant and cheerful guest. One's habits of life—eating, drinking, employment, and associations—have much to do, have almost everything to do, in the way of inviting or repelling sleep."

THE following amendment to the constitution of the Chicago Medical Society has been proposed by Dr. Arthur D. Bevan: "Any member who is guilty of giving or receiving a commission or of entering into any arrangement for the division of a fee for professional services, which arrangement is not known and fully understood by the patient or party by whom such fee is paid, shall be guilty of unprofessional conduct." This follows as the result of the recent exposure by decoy letters which were discussed by the interested parties at the meeting of the council of the Chicago Medical Society on November 9, 1904. Those who gave the results to a newspaper have offered their explanation, and the matter, at least officially, will probably be dropped.

THE nutritive value of food preserved for a considerable time in cold storage will, according to an exchange, be made the subject of an experiment by Dr. Wiley, chief chemist of the Department of Agriculture, this winter. Among the samples of food to be investigated are partridges, quail, and beef, which have been lying in the cold storage warehouse at West Point for two years. This meat appears to be in perfect condition, but the "poison squad," as the food testers are called, will make a practical test of its digestibility and nutritive value. The year's experiments will also include tests of foods preserved with formaldehyde and water disinfected with sulphate of copper. Of the twelve young men who compose this year's squad five are medical students at Georgetown University.

ACCORDING to a report published in the Berlin *Vossische Zeitung* the training schools for disinfectors established a year ago have proved very useful, the pupils being now better trained than under the previous system, according to which they received instructions only from the district medical officer of health. There are fourteen training schools, where sixty courses of instruction were given during last year, the number of pupils being 601, of whom 585 obtained certificates of competency as disinfectors. The duration of each course was nine days, and only ten pupils were received at one time, the age of admission being not over forty-five years. Special training in disinfection is provided for nurses. The Minister of Public Instruction, as chief of the

Government Medical Department, has requested local authorities to appoint in each town at least one registered disinfector (and a proportionate number for the rural districts) to undertake the disinfection of dwellings when required by the medical officer of health.

At the World's Fair in St. Louis, Professor Himalya recently gave the first demonstration of the pyrheliophor, an apparatus for concentration of the sun's rays. Iron melted in less than a minute; fire-clay fused in about three minutes; and magnesia, one of the most infusible substances, requiring about 6400° F. to melt it, was reduced to a molten state in about twenty minutes. In this apparatus the rays of the sun are reflected from more than 6000 small mirrors arranged in concave form, covering an area of 30 x 42 feet, into a retort 18 inches in diameter and 2 feet deep. The focus of the rays is about 7 inches in diameter, and the heat generated is about 7000° F. The regulation of the mirrors is now done by hand, but a clock for this purpose is being constructed.

The *New York Evening Post* says: "Pittsburg is the home of a hospital that professes a theory of healing art. It set out to be esthetic as well as anesthetic. Artists were called in and painted pictures on the whitewashed walls. The theory was that, under the influence of those artificial forests and flowers, the patients would get well. But unluckily some of them died. Moreover, all the patients who died in the decorated ward grew worse after they had been taken there for treatment. The doctors held a consultation, and their verdict was that the pictures must go. The art cure, one gathers from the catastrophe, is only another phase of Christian science. Meanwhile, in the light of the high mortality while the paintings remained, we may perceive a profounder significance in the proverb, 'Ars longa, vita brevis.'"

The vital statistics of France show, says an exchange, a continuance of the decrease in the birth-rate as compared with other nations, for while the excess of births over deaths in 1901-1902 was 21 per 10,000 inhabitants, the ratio for the same period in Germany was 153, and in Great Britain 119. The official figures just published of the population of France in 1903 are as follows: Births, 826,712; deaths, 753,606; excess of births, 73,106; excess in 1902, 83,944. The population of France in 1902 was 38,961,945, and in 1903 was 39,119,095,

but in 1903 there were 18,666 fewer births than in 1902. The number of deaths was fewer by 7828 than in 1902. It is pointed out in the report that the increase of population was not due to any increase in the general birth-rate, but solely to the steadily declining death-rate.

A Boston exchange states that it is to the honor of Massachusetts to have provided the first institution for the care of tuberculous patients under State care, control, and largely under State support. The sanatorium at Rutland, established as the result of the earnest appeals of physicians and philanthropists, has, in the judgment of the great majority of specialists familiar with its work, passed its experimental stage. Its methods are the most approved and scientific, its results satisfactory, and the cost of maintenance within the average of the best institutions of the kind. The State Sanatorium now has a capacity for 325 patients. On the completion of present plans it will accommodate 400. Its report for 1903 shows 589 cases admitted and 576 discharged. Of these patients 48.97 per cent are recorded as having the disease arrested and apparently cured, 43 per cent as improved, and 7.9 per cent as not improved.

An interesting test, says a Western exchange, of the respective merits of the homeopathic and allopathic treatment for the tuberculous is being made in the Home for Consumptives at Kingston Avenue and St. John's Place, Brooklyn. Two reports were read at the annual meeting of the institution, one from the homeopathic and the other from the regular physicians. The homeopathic report showed 72 men and 41 women under treatment in the year ended September 30. Of these 10 men and 6 women were discharged as improved. There remained 21 men and 19 women. The regular report for the same period showed that 207 men and 104 women had been under treatment, of whom 38 men and 21 women were discharged improved, and there remained 45 men and 20 women in the home. Thus the homeopathists discharged 14 per cent of their charges as improved, while the regulars discharged 19 per cent of theirs.

In the *Journal of the Association of Military Surgeons of the United States* the rate of mortality during the Turco-Russian war was much larger among military surgeons than in the combatant branches of the army. The following statistics embody the results of a comparative study of the official records of former wars: During the campaign of 1813-15 there were 2170 surgeons

in the Prussian army, of whom about 10 per cent were either killed or wounded, this proportion being about equal to that of casualties among combatants. In the French campaign against Constantine in 1837, while every thirteenth combatant officer was killed, every sixth surgeon died. This, in proportion to the numbers, shows that the mortality among surgeons (16 2/3 per cent) was more than double that of the combatant officers (7 7/10 per cent). During the Crimean war, according to French official statistics, the mortality among the surgeons was 18.2, while that among the combatant officers was 7.3 per cent. In the last Russian campaign 355 surgeons out of a total of 2839 died, being 12½ per cent. In the French-Mexican expedition the rate of mortality among the surgeons was about 20 per cent, while that of the combatant officers was only about 4 per cent. The only instance on record in which the proportion of deaths among combatant officers was larger than that of the medical officers is said to have been in the Prussian army during the Franco-Prussian war, 1870-1.

The 32d annual meeting of the American Public Health Association will be held at Havana, Cuba, on January 9 to 13, 1905, under the presidency of Dr. Carlos J. Finlay. The executive committee has selected the following topics for discussion, but papers upon other sanitary subjects will be received: (1) Purification and preservation of water-supplies; (2) disposal of sewage and industrial wastes; (3) animal diseases common to man; (4) etiology of yellow fever; (5) tuberculosis; (6) plague; (7) demography and statistics in their sanitary relation; (8) infectious period of communicable diseases; (9) public health legislation; (10) causes and prevention of infant mortality; (11) disinfectants and disinfection; (12) teaching of hygiene and granting of diploma of doctor of public health; (13) the sanitation of travel; (14) the tenement house problem; (15) methods to control the milk supply of large cities; (16) hygiene of dress; (17) sanitary agreement between adjoining nations. In the section of Bacteriology and Chemistry the subjects for discussion will be: (1) Standard methods of water analysis; (2) on diagnostic procedures; (3) the significance of bacillus coli in water-supplies; (4) on bacillus tuberculosis in man and animals; (5) on laboratory tests of the efficiency of water filters; (6) action of formaldehyde as a disinfectant; (7) on antitoxic and immunizing sera; (8) the relation of protozoa to disease; (9) varieties and action of anaerobic bacteria in sewage; (10) standard methods for the identification of bacterial species.

NEW PUBLICATIONS.

BLOOD-PRESSURE.

A consideration of the circumstances tending to change or alter conditions of blood-pressure forms the subject of Dr. Bishop's interesting little book. The tone of the work is clinical; the author considers over-respect is manifested just at present for laboratory work, and if clinical workers yield the field of medicine entirely to the so-called research-workers and laboratory men there is certain to be a halt in the progress of the art of medicine. This monograph deals very thoroughly with one of the most important points of clinical study.

Blood-Pressure, as Affecting Heart, Brain, Kidneys, and General Circulation. A Practical Consideration of Theory and Practice. By Louis F. Bishop, A.M., M.D., Physician to Lincoln Hospital and French Hospital, New York. 12mo; cloth, $1.00.

PRACTICAL DIETETICS.

This is something more than a treatise on dietetics. It invites attention from its method of approaching the subject from the practical side of the one who has to provide the dietary ordered. It is, in fact, a scientific cook-book instructing the reader in the art of making appropriate and palatable dishes. The book is one which is invaluable to the trained nurse, and one which the physician may consult with obvious advantage to himself and patient.

Practical Dietetics. By Alida Frances Pattee. Second Edition. Published by the author, 52 West 39th Street, New York.

GOLDEN RULES OF ANESTHESIA.

The Golden Rule manuals are well known, and the present number is no exception in excellence to its predecessors. All the principal points which the anesthetist should be familiar with are recorded in the little manual.

Golden Rules of Anesthesia. By R. J. Probyn Williams, M.D. Bristol, England: John Wright & Co.

THE PROGRESS OF MEDICAL SCIENCE.

SURGERY.

Result of Operation for Uterine Cancer.

Duret and Besson (*British Medical Journal,* Nov. 5, 1904) report their experience in hospital practice from 1891 to 1903 inclusive. Out of 173 cases of uterine cancer, 104 were too advanced for operation when admitted, 69 underwent hysterectomy—namely, the vaginal operation in 40, with 6 deaths (15 per cent mortality), and the abdominal operation in 23, with 10 deaths (43.4 per cent mortality). Turning to the 6 deaths after the vaginal operation, 3 patients were in bad general health, and 1 of these died of internal hemorrhage, 1 of suppurative peritonitis, and 1 from damage to the sigmoid flexure. There remain 3 who were in good health, and of these 1 died of shock, 1 of pneumonia, and 1 of cardiac disease on the tenth day, with no evidence of sepsis or hemorrhage. The 10 deaths in the 23 abdominal operations were due to shock in 4 cases, septicemia in 3, ligature of both ureters in 1, laceration of bladder and section of a ureter in 1, and cardiac failure due to mitral obstruction in 1. Thus although the abdominal operation is becoming more popular than it was ten years ago, the immediate results are unfavorable.

Duret and Besson find that the after-histories are yet more unsatisfactory. For after carefully following up 34 of the vaginal cases and 9 of the abdominal which recovered, the results in the vaginal cases were: 13 patients free from recurrence at the end of one year, 8 free between one and two years, and 13 free over two years after operation. Of the 9 abdominal cases which recovered from hysterectomy and were followed up, 6 died within ten months, 1 seven months after operation, and 1 in six months. The patient who died in seven months was reported as "in advanced cachexia." Nor do Duret and Besson consider that the abdominal operation is best because it allows of the free removal of diseased lymphatics by deliberate dissection. This radical measure has been shown to be insufficient when lymphatic infection is advanced, whilst in cases where it has not commenced the vaginal operation is quite sufficient to allow of the removal of all cancerous tissue.

Formal-iodine, a Modified Claudius Method for Preparation of Catgut.

The modification of W. J. Stone (*Medical Record,* Nov. 12, 1904) consists simply in submerging the raw commercial catgut in an aqueous four-per-cent formalin solution for thirty-six to forty-eight hours, then washing in running water ten to twelve hours to free the excess of formalin, and then to submerge in the iodine solution recommended by Claudius for eight days before using. The gut should be loosely wound on glass spools and put in the formalin solution. When in the running water, strands ten to twelve inches long are cut from the spool and put into iodine solution. The writer has found that providing a certain batch of catgut is old and brittle, the addition of five-per-cent solution boroglyceride (glycerite of boroglycerin, U. S. P.) or of glycerin to the iodine solution improves the pliability of the catgut without in any way lessening its tensile strength. The boroglycerin or glycerin should be sterilized in a container surrounded by boiling water for half an hour on three successive days. Scrapings from catgut prepared in this way have been found to be absolutely sterile in one-half hour after submersion in the iodine solution.

The material is left in the iodine, or iodine-glycerin solution, until ready for use. It is then removed with sterile forceps, threaded, and placed in sterile water. It seems to be preserved indefinitely in the solution without suffering deterioration. The formalin treatment is not intended to render the gut sterile, although it undoubtedly aids in the process, but merely to harden it. The addition of the boroglyceride or glycerin, when necessary, to the iodine solution is intended to render the gut more pliable after the hardening process.

Catgut so prepared has all the requirements of a perfect suture and ligature material. It is stronger than any ever seen by the writer when prepared by other methods. It practically has the tensile strength of silk in fact. It is pliable and not too elastic, knots well, and seems to be ideal in every respect.

Infantile Inguinal Hernia of the Appendix.

Stanton and Shaw (*Albany Medical Annals,* August, 1904) describe one case, a boy born November 10, 1902, who was admitted on January 31, 1903, and died October 28 the same year. While under observation there were no symptoms refer-

able to the appendix or genital organs, the patient dying of bronchopneumonia following measles. At the autopsy the appendix was 8 centimeters long; it extended directly downward with free mesoappendix from the cæcum through the internal ring and inguinal canal, and was so united by adhesions to the testicle that the latter could be drawn up into the inguinal canal by traction on the appendix at the right of the internal ring; otherwise the funicular process was completely obliterated, and there was no evidence of a hernial sac. The tunica vaginalis on both sides was thickened. Hernia of the appendix is uncommon, but Coley found it without other parts of the intestines five times in 351 operations for hernia. There are two forms, congenital and acquired. The congenital form is always inguinal and almost always in the male. There are adhesions between the appendix and some remains of the processus vaginalis—the cord, wall of the sac, or the tunica vaginalis. These adhesions have enabled the same forces which cause the descent of the testicle also to bring the appendix down into the inguinal canal. The attachment probably originates in fetal folds of the peritoneum. Inflammatory conditions occurring either in the appendix or testicle and resulting in adhesions would also cause the descent of the appendix with the testicle.

Fibroma of the Uterus Complicated by Disorders of the Heart and Kidneys.

At a recent meeting of the Philadelphia Medical Society G. E. Shoemaker (*New York Medical Journal,* Dec. 3, 1904) in a paper with this title said that later observation of this class of growths has shown that the harmless tumor is comparatively rare, if the past, present, and future of the individual are considered. Some complications are caused by the tumor, others are aggravated by its presence. Salpingitis, peritonitis, intestinal obstruction, dystocia, diseases of the bladder, secondary anemia, depression of the nervous system from starvation due to hemorrhage, ascending kidney disease, dilatation of the heart from back pressure and degeneration of the heart muscle, might be mentioned. Questions of management in the relatively simple groups differ from those where serious diseases of other organs exist. The nicest consideration must be given to individual conditions. Patients having serious visceral lesions might be operated upon with advantage, if the presence of the tumor seriously exhausts the vitality or complicates the situation, provided a rea-

sonable margin of safety can be shown. Careful preparation of the individual is then essential, possibly lasting for two weeks. Surprisingly good results follow. Cases were given in which patients had recovered from hysterectomy, one showing mitral disease, another arteriosclerosis and valvular disease of the heart, and another profound uremia without nephritis due to the ball-valve pressure of an enormous movable tumor intermittently obstructing the ureters. Still another case showed serious heart weakness, etc.

The Surgical Cure of Certain Cases of So-called Chronic Dyspepsia.

Chas. A. L. Reed (*New York Medical Journal,* Nov. 26, 1904) says that the majority of cases of so-called "chronic dyspepsia," "gastralgia," "nervous gastralgia," "neuralgia of the stomach," "cardialgia," and "hyperchlorhydria" are in fact cases of ulcer, or the organic consequences of ulcer of the stomach or duodenum, or both. Cases amenable to medical treatment should be cured in from five to six weeks, after which time they should be placed in the surgical category, while hemorrhagic cases should be operated upon without the delay prescribed by medical writers. Surgical ulcer of the stomach if neglected may develop adhesions, perforations, hemorrhages, or cancer, or in the absence of these may provoke sepsis and anemia, which, if the underlying conditions are not corrected by operation, may and frequently do prove fatal. It is important, therefore, that the cases should be promptly brought to operation, which without reference to details should establish rest and maintain drainage for the diseased organ. The comfortable after-course of these cases, the low primary mortality, and the permanent curative results following the operation comprise its complete justification.

Treatment of Hypertrophied Prostate.

Nicholich (*Wiener klin. Wochenschrift,* No. 41, 1904) operated on a case of hypertrophied prostate with incomplete retention of urine and dilatation of the bladder by opening the bladder above and extirpating the median lobe of the prostate, tamponing the bladder with iodoform gauze, and not suturing the incision. After eight days the tampon was dispensed with. One month after the operation the urine was voided entirely through the urethra, and after two months the wound closed.

Bone and Cartilage in the Tonsils.

Ruckert (*Virchow's Archiv*) describes cartilage and bone formation in the tonsil. He found in the tonsils of four adults, also in twenty-four new-born and several older children, cartilaginous deposits in this organ. The author does not think that this cartilaginous bone formation is due to metaplasia of cicatricial tissue, but that it can be traced to the rudiments of the cricoid cartilage.

MEDICINE.

One Hundred and Sixteen Cases of Typhoid Fever, with Special Reference to Therapeutic Fasting.

R. M. Harbin (*Medical Record*, Nov. 12, 1904) says that the toxin of the bacillus typhosus is probably produced by bacterial disintegration in the intestinal tract, where the pathognomonic lesions of the disease occur. There is a greater degree of toxemia in cases associated with gastrointestinal disturbances. The toxin of the bacillus typhosus produces the pathognomonic symptoms of typhoid fever. Hyperpyrexia without the pathognomonic symptoms indicates a probability of mixed infection. Different individuals are affected differently by the specific toxin, robust young adults being more susceptible, while the extreme ages, the anemic, etc., are less so. The variations in types of the disease are more due to individual conditions rather than types of epidemics. These statistics indicate that there are as many deaths among the mild (2.5 per cent) as among the severe (5.4 per cent) cases. Emaciation occurs independently of the amount of food taken. A great majority of clinicians of long experience feed typhoid patients in a very restricted manner. Fasting and a restricted diet are indicated because of pathologic conditions, and to a great extent eliminate the dangers of sthenic cases. The proper food management of the case will well-nigh shield him from every danger incident to the course of the disease. The eliminative treatment so-called is irrational except to mitigate the sins of overfeeding. What the patient loses in food is more than compensated by a lessened degree of toxemia. Peristalsis favors the absorption of toxins, and cathartics should be used only to remove undigested food. Nitrogenized food and water are essential to a normal nitrogen equilibrium, and there is little danger from inanition in sthenic cases. The presence of ulcers in the intestines should be assumed in every case of typhoid

fever, and the proper treatment is rest, which is better attained by fasting and a restricted diet, thus preventing hemorrhage and perforation. The presence of diarrhea and vomiting indicates the adoption of fasting. Fasting and a restricted diet enhance the effects of hydrotherapy, and many cases (28.4 per cent) run an abortive course.

Gelatin is a valuable adjuvant in the dietetics of typhoid fever, and lessens the nitrogenized waste and prevents hemorrhage. Milk as a food is a danger, except in a modified form. The modified cold bath is preferable to the Brand system. Recrudescences are usually due to dietetic errors. In this report 45 consecutive cases occurred without a death. Of 113 whites, 2 or 1.7 per cent died, and the low mortality of 3.4 per cent of all cases was ascribed to the above treatment.

Ankylosing Arthritis in Tuberculosis.

At a recent meeting of the Paris Medical Society M. Poncet and M. Leriche (*Lancet,* Nov. 12, 1904) brought forward a communication demonstrating that a tuberculous arthritis of dry or plastic character exists which leads very generally to a bony ankylosis of the affected joints. From this tendency to bony fixation of the joints the affection has been described as ankylosing tuberculous arthritis, a similar tendency being apparent in all the infective forms of arthritis, especially that due to gonorrhea. The condition attacks one or more joints, sometimes practically all (monoarticular, oligoarticular, or generalized arthritis). Spondylitis deformans of the Strümpell-Marie type frequently belongs to this group of arthritis, and also other varieties of ankylosing articular manifestations, such as the type of Bechterew. It is sharply marked off by the simple inflammatory character of its lesions and by the absence of granulations, of caseation, and of fungoid masses from the ordinary tuberculous disease of joints and from chronic rheumatism and rheumatoid arthritis. It is very probably the result of infection by bacillary toxins, sometimes originating, as is most frequently the case, from virulent tuberculous foci at a distance, whether hidden or apparent, and sometimes elaborated in the blood current. This latter condition of bacillemia would explain the cases of primary tuberculous ankylosing arthritis (type of Bouillaud), in which under the form of an acute articular rheumatism there is the manifestation of a bacillary infection, of which no other suspicion might

be forthcoming. The condition is always grave from the point of view of the recovery of function of the affected joints, but is relatively benign in its mono- or oligoarticular forms. In its generalized form, however, it is a terrible disease, since the skeleton becomes practically a rigid bony frame. In all cases it is the sign of an infection which under certain conditions might change in character, become more virulent, and affect various viscera. In cases of arthritis of plastic or ankylosing polyarthritis one should regard tuberculosis as the pathogenic factor, and remember, moreover, that the patient may be free from other infections.

Diseases of the Skin Connected with Errors of Metabolism.

L. Duncan Bulkley (*Medical Record,* Nov. 26, 1904) says that metabolism represents the changes occurring in the system, whereby nutritive materials and oxygen are transformed into living tissues, and retransformed into waste products, while during these processes their potential energy is being given off in living force and heat. As healthy cell action and transformation is produced and maintained by perfect metabolism, so when there is perverted metabolism the structures in various parts of the body must suffer, and this we call disease. As every cell in the body constantly takes up and gives off material, so the results of metabolism can be affected by the normal or abnormal action of every living cell in the organism. Metabolism is, however, principally affected by (1) the kind of nutriment taken; (2) the action of the digestive organs and ductless gands; and (3) the action of the nervous system. Certain skin lesions, or eruptions, have been credibly reported as connected with or dependent upon the generally recognized metabolic conditions of (*a*) gout; (*b*) rheumatoid arthritis; (*c*) diabetes; (*d*) obesity; (*e*) scrofulosis. As yet no absolute statements can be made as to the necessary connection of the two, for the same eruptions occur in several of the metabolic affections. The idiosyncrasy of the patient and many causative elements, external or internal, nervous, etc., often determine which form of skin disturbance or alteration shall take place. Errors of diet, disorders of digestion, faulty excretion, and nervous derangement, which have all along been recognized as causative elements in many diseases of the skin, often find their ultimate expression or mode of action through the faulty metabolism induced thereby. Metabolic errors are exhibited in

the excreta from the lungs, skin, intestines, and kidneys; and of these, the urine best affords a satisfactory indication, as it represents nearly one-half of the total excreta and practically all of the nitrogenous and soluble mineral substances, together with about one-half of the water expelled from the system. Complete and minute urinary analysis is a very great aid in discovering metabolic errors, and in establishing proper therapeutic measures for the cure of many diseases of the skin.

The Functions of the Tonsils.

Geo. B. Wood (*University of Pennsylvania Medical Bulletin,* October, 1904) has from his researches into the functions of the tonsils drawn the following conclusions:

1. That the epithelium of the crypts by a mitotic division of its cells exhibits a marked tendency toward constant growth. This is shown by the penetration of the epithelial cells into the parenchyma of the tonsils and the formation of teratoid masses in the lumen of the crypt.

2. That the theory of the migration of lymphoid cells from the secondary follicles into the crypts does not satisfactorily explain the presence and character of the cells in the interepithelial spaces.

3. That there exists transitional cells by which all stages may be traced between the epithelial cell and the lymphocyte.

4. That the variation in types of the lymphocyte is most marked in the region of the cryptal epithelium.

5. That the degree of infiltration of the epithelium holds no relation to the cryptal contents. On the other hand, the ingrowing sprouts of epithelium possessing no lumen show as much if not more infiltration than the true crypts.

6. That the complete destruction of the cryptal epithelium is a very rare occurrence, almost always a sufficient number of epithelial cells being left to provide an intact barrier along the surface toward the cryptal lumen.

The thought that the epithelial lining of the tonsillar crypts may be converted into cells that are generally supposed to be of connective tissue origin is not one to be accepted lightly. It suggests the possibility of the interchange of cell types; that no distinct line can be drawn between the epithelial cells, connective tissue cells, and endothelial cells. Wood believes himself justified in saying that the tonsil is a primogenetic source of leucocytes, and

that it is possible that all adenoid tissue which has developed in intimate relation with epithelium is playing a rôle very similar to that which he accords the tonsils.

Fecal Vomiting and Reversed Peristalsis in Functional Nervous Diseases.

D. Weber (*Brain,* Summer, 1904) draws the following conclusions: (1) Functional nervous vomiting, like the hemianesthesias, palsies, and spasms of hysteria, must be regarded as due to an abnormal state of the cerebral cortex, and is just as much a symptom of functional brain disease as the vomiting in cases of cerebral tumor is of organic brain disease. (2) Fecal vomiting of functional nervous origin is merely a rare and extremely exaggerated form of ordinary hysterical vomiting. (3) The vomiting in functional brain diseases may be sometimes more violent and severe than it ever is in organic cerebral disease, since fecal vomiting is scarcely known to occur in cases of cerebral tumor. For the occurrence of fecal vomiting of functional nervous origin active antiperistalsis is absolutely necessary. But it is not certain that antiperistalsis necessarily plays a part in the fecal vomiting known to surgeons as a symptom of organic intestinal obstruction (organic ileus). (5) The fecal vomit in organic obstruction of the bowel is seldom if ever more than feculent—that is to say, having the odor of feces without containing obvious visible fecal particles or masses. Vomiting of formed feces in the absence of malingering and gastrocolic fistula practically only occurs in functional nervous diseases. (6) Hysterical malingering is apt to develop in the same (hysterical) class of patients in whom fecal vomiting occurs, and the possibility of genuine fecal vomiting occurring side by side with simulation must be kept in mind.

The Etiology and Pathology of Gout.

Thomas B. Futcher (*Journal of the American Medical Association,* Dec. 3, 1904) says that heredity, overindulgence in malt liquors, poor food, with bad hygienic surroundings, or overeating with insufficient exercise, and lead intoxications, are undoubtedly important predisposing etiologic factors in the production of gout. An analysis of fifty-four cases treated in the medical wards of the Johns Hopkins Hospital shows that the overuse of fermented beverages seems to be the most potent factor in this

country. Gout in the United States appears therefore in the majority of cases to be acquired or "freehold" rather than "copyhold" or inherited.

Studies of the metabolism in gout have as yet afforded no satisfactory explanation for the causation of the disease. There seems to be very little doubt that it is due to disturbances in the metabolism of the "endogenous" and "exogenous" purins. As yet there is not sufficient experimental evidence to warrant us in abandoning the theory that the manifestations are in large part due to disturbances in uric-acid metabolism. Practically all researches agree in showing that the blood in gout contains a marked excess of uric acid, and the balance of opinion is in favor of the view that this excess is due to deficient excretion on the part of the kidneys. The alkalinity of the blood apparently is not diminished, as Garrod supposed.

The joint manifestations are essentially due to the deposition of the uric acid combinations of the blood in the form of the crystalline sodium biurate. Whether a local tissue necrosis is primary or secondary to this deposition is a question still in dispute. Nephritis usually of a chronic interstitial type, arteriosclerosis, myocarditis, pericarditis, and emphysema are the other most frequent pathologic findings.

The Postdischarge Mortality Among the Patients of the Adirondack Cottage Sanitarium.

L. Brown (*American Medicine,* Nov. 19, 1904) says that the test of a sanatorium treatment is not the immediate but the ultimate results. The lack of uniformity in classification renders the comparison or the combination of the results of various sanatoriums extremely difficult. The classification on "the ability to work" is beset by so many difficulties in America that it is rendered of very little value. The mortality among patients discharged in various conditions affords the best method of studying the permanent results of sanatorium treatment. Of those discharged apparently cured 93 per cent of the expected living are alive; of the disease arrested, 65 per cent; of the cases discharged with active symptoms, 23 per cent. The death-rate among the apparently cured patients is during the first ten years about three times the ordinary death-rate. The death-rate among the patients discharged with the disease arrested increases during the first few years to many (10 to 15) times the normal death-rate, but after-

ward decreases. Nearly half of the patients discharged with an active disease die in the first two years. Patients between thirty and forty, when discharged apparently cured, seem to relapse less than younger patients. This tendency is little if at all marked among the patients discharged with the disease arrested. Incipient cases seem to relapse less than advanced, when both are discharged in the same condition.

The Relation of the Physician to Proprietary Remedies.

Wm. J. Armstrong (*Journal of the American Medical Association,* Dec. 3, 1904) says the prescribing and using of preparations the compositions of which are unknown is to be condemned unequivocally. It is unscientific, unethical, and is bound to react injuriously on the physician and the public alike. The physician who refuses to use a thoroughly established remedy, of known composition, merely because it is proprietary, is guilty of narrow-minded fanaticism, and he is not doing the best by his patients. Substitution does exist, and is a serious evil, in some localities especially. The abolition of substitution lies to a great extent in the physician's own hands, and he can accomplish it by making himself familiar with the physical characteristics of the remedies that he prescribes; by patronizing pharmacists in whom he has perfect confidence; and by exposing those who, he is certain, are incorrigible substitutors. The physician is guilty of encouraging substitution by ordering every new mixture that is brought to his attention by circulars, drummers, and venal journals; but while this is an explanation of the prevalence of substitution, it is no justification for it. Prescribing in original packages is an evil, but being a lesser evil than substitution it is often justifiable.

Differential Diagnosis Between Pseudomembranous Angina of Syphilis and Diphtheritic Angina.

Pseudomembranous syphilitic anginas are not rare, according to R. R. Campbell (*Journal of the American Medical Association,* Nov. 19, 1904). The differential diagnosis of pseudomembranous syphilitic angina and diphtheria cannot always be made from the clinical picture. Culture tests and the microscope should be employed in all suspected cases. In all cases in which we are highly suspicious of diphtheria, antitoxin should be used promptly while awaiting the maturity of our culture tests.

Migration of Bacteria Through the Intestinal Wall.

Klimenko (*Zeitschrift für Hygiene*, Bd. 48, 1904) finds that in healthy individuals the intact intestinal wall will not permit of the passage of microörganisms, though the slightest interference with the animal organism or mechanical injury to the intestinal mucosa allows them to penetrate it. He believes that the mesenteric glands possess a protective power against the migration of bacteria, which would explain the fact that they are often found in the mesenteric glands but seldom in the internal organs.

Import of Rapid Pulse in Tuberculosis.

Sterling (*Münchener med. Wochenschrift*, Bd. 3, 1904) compared 1239 cases of tuberculosis with special attention to the pulse-rate, and finds that a slow or normal pulse is a good indication, especially at the onset of the disease. He believes the rapid pulse to be due to the fact that no limiting connective tissue wall is present to prevent the diffusion of the toxin into the circulation. The rapid pulse is therefore to be considered as a sign of weakening of the protective forces.

Etiology of Tuberculosis.

Mitulasen (*Zeitschrift für Hygiene*, 1904) examined ninety-seven books in a circulating library, washing off the leaves and injecting the washings into guinea-pigs. The results showed that one-third of the books were infected with tuberculosis. These books had been in circulation for three years. Other of the animals succumbed to septicemia and malignant edema.

THERAPEUTICS.

Cases of Epilepsy Cured Without Drugs.

A. L. Ranney (*New York Medical Journal*, Dec. 3, 1904) says epilepsy is not necessarily an organic disease; hence there is always hope of a radical cure. A very large proportion of epileptics suffer from some type of reflex, viz., ocular, abdominal, genital, or other local sources of nervous irritation. Of these reflexes, the eyes are unquestionably the most frequent seat of trouble. No medication should ever be employed to control epileptic convulsions until every possible exciting cause has been intelligently

sought for and scientifically combated. The refraction of all epileptic patients should first be carefully determined under the influence of a mydriatic. I usually employ homatropine to dilate the pupils and to relax the accommodation. If in doubt after this step, I invariably use atropine. Such tests are positive. I have seen many instances where a total cessation of fits for weeks has been caused by the use of atropine in the eye. Furthermore, the effect of paralyzing the accommodation is often of great aid in getting a patient to accept a strong hypermetropic glass for constant use. It is usually advisable to first correct fully the refraction of epileptic patients by properly prescribed glasses, and to have the patient wear them for a time, before positive conclusions are arrived at regarding any maladjustments of the eye muscles (heterophoria). A large proportion of epileptics unquestionably suffer from heterophoria. After the correction of errors of refraction by glasses for a time, the tests for maladjustments of the eye muscles should again be made. Such tests will then be far more reliable and trustworthy than if made before the refractive errors have been intelligently corrected. The prescribing of glasses to correct errors of refraction has always been considered by the writer as vitally important in the treatment of eye-strain. It should always be done most accurately and scientifically. It is imperative to do this at first, and to have patients wear glasses for refractive errors constantly for some time (whenever marked muscular errors exist) in order to determine if they are modified by the refractive correction.

Refractive errors may cause apparent heterophoria in a certain proportion of cases; and proper glasses may sometimes modify genuine heterophoria.

There is indisputable proof that genuine heterophoria may coexist with refractive errors (as an independent source of eye-strain), and it may also be found in cases where absolutely perfect refraction exists. One radical and permanent cure of genuine epilepsy without drugs offsets a thousand failures, as proof of a scientific discovery. Modern instruments and modern methods of eye testing are indispensable to the eye treatment of epilepsy. The most serious refractive errors and muscular defects in the orbits do not necessarily create eye symptoms, even when reflex symptoms produced by existing eye defects are extremely severe. The percentage of cure of chronic epilepsy under skilful eye treatment will naturally be modified greatly by the abnormal eye conditions found, the physical condition of the patient, the amount of drugs that have been given to the patient, and the complications

that may coexist with eye-strain. No one is ever justified in promising to an epileptic a complete cure of epilepsy by any method of treatment. Such promises are only made by quacks or by irresponsible and uneducated persons. The general concurrence of medical opinion is against the curability of epilepsy by drugs. Fits may be thus held in check for long or short periods; but permanent cures of epilepsy after a complete cessation of drugs are practically unknown. To colonize epileptics or to place sufferers of that type in private sanitariums without any investigation of their eyes and eye muscles cannot be too strongly condemned, in the author's opinion. He thinks the total percentage of epileptics who suffer from eye-strain as an important factor is very large, after first deducting from the total number the comparatively small number of cases that owe their epileptic seizures directly to some organic lesion of the brain or to a depression of the skull. Almost all chronic epileptics give a history of falls that have some time injured the head in some way. Few of them, however, have enough depression of the skull to make trephining imperative, and in every such case the injury must have preceded any epileptic seizures to make it probable that the fits were the direct results of the injury. The duration of eye treatment in epilepsy varies from three months to three years. Most of the work is done during the first six weeks; but long intervals of rest, between the successive operative steps that are commonly demanded, often extend the period of treatment over quite a long period whenever the convulsive seizures are not totally arrested.

The Serum Therapeutics of Snake-bite.

George Lamb (*Lancet,* Nov. 5, 1904) says that antivenomous sera are markedly if not absolutely specific, even between the venoms of species of the same genus. Hence, in any case of snake-bite the venom of that species which has inflicted the bite must always be used.

The difficulties in collecting the poisons of the different species of snakes in sufficient quantity for purposes of immunization are apparently very great.

Up to the present the only sera which have been used practically are the one prepared by Calmette and the one prepared with pure cobra venom. Both these sera are practically specific for venom.

As the neutralizing power of these two sera is not great, and

as a cobra can inject a large amount of venom, the serum must be given in large quantity; as much as from 300 to 400 cubic centimeters, even when given intravenously, would be necessary in some cases. If given subcutaneously from ten to twenty times this amount would be required. It should therefore always be given intravenously.

Experiments on dogs and the records of cases of cobra bite in man bear out these calculations.

It is evident from the above considerations that it is a question as to whether the advantages to be gained by the serum treatment of cases of snake-bite are at all commensurate with the cost entailed in the preparation of the sera.

The Treatment of Infantile Hemiplegia.

L. H. Mettler (*Clinical Review*, December, 1904) says that the treatment of the onset must be in accordance with the pathological diagnosis. Hemorrhage, embolism, thrombosis, encephalitis, have their own particular lines of treatment. In febrile cases ice-bags, antipyretics, cathartics, etc., are all in order. The treatment should be carried out on general principles. Rarely, however, is the practitioner called upon to treat the early onset of the trouble. As a rule he is consulted only when the paralysis has been some time in existence.

Mechanical and pedagogic treatment is about all that can be instituted. There is no medicine with which to combat the changes in the central nervous system. Tonics are all that can be thought of in the way of medicinal agents. Daily massage, electricity, and passive movements may be employed for the paralysis. Epilepsy is to be treated as usual with the careful administration of the bromides. This symptom, like the chorea and athetosis, is not very amenable to medicinal management. Contractures should be overcome by stretching, forcible replacement, splints, tenotomy, and other well known orthopedic and surgical procedures.

Education, discipline, gymnastics, and systematized exercises can sometimes accomplish very gratifying results in cases in which the intelligence is preserved. The author would warn against overexercise in carrying out this line of treatment. Exhaustion must be guarded against. With this single proviso it may be truthfully said that these patients cannot be encouraged too much to use systematically as well as they can their paralyzed limbs.

Trephining and craniectomy as suggested by Lannelongue have been tried in some of these cases: clots have been removed and cysts have been evacuated. The ultimate results have not been sufficiently favorable in a large enough number to pronounce definitely upon the utility of these surgical measures. Further experimentation is needed.

The Treatment of Epilepsy in Connection with Auto- and Hetero-toxis.

Allan McLane Hamilton (*Medical Record,* Dec. 3, 1904) says that we should, besides every measure that will favor elimination, regulate the dietary so that the idiosyncrasies of the individual shall be taken into account, but nitrogenous food should be interdicted as far as possible. No large quantity of food should be taken at any one time.

If intestinal autotoxis exists, cholagogues and appropriate ferments, as well as antiseptics, should be prescribed.

Everything should be done to prevent the lighting up of gross intracerebral pathological processes, and the resulting formation of cholin. The equilibrium of the arterial pressure should be everywhere maintained.

The bromide should be given only in doses sufficient to diminish the activity of the cortical motor cells.

The Treatment of Pneumonia.

Frank D. Reeves (*Medical Record,* Nov. 26, 1904) says that more attention should be given to the prodromes of pneumonia; for the toxemia may be cellular or due to the diplococcus lanceolatus. The treatment should be eliminative, and some form of potassium should be used. Rest is of the greatest importance. There is no indication in the treatment of pneumonia that cannot be met by other remedies than alcohol.

Sprain and its Treatment by Massage.

G. Norstrom (*Medical Record,* Nov. 19, 1904) sums up his line of treatment as follows: At the initial stage, in the presence of classical phenomena, including a great deal of pain—effleurage. When the pain has decreased a good deal—friction and passive movements; later active movements. Walking at the beginning ought not to be permitted. In all sprains of the lower extremities,

after every séance, application of a gauze bandage, a precaution all the more indicated when the patients are allowed to use their legs and to walk. In order to prevent real relapses, as well as to prevent the inflammation becoming chronic, the treatment ought to be continued until complete restitution has taken place.

GYNECOLOGY AND OBSTETRICS.

UNDER THE DIRECTION OF W. P. MANTON, M.D.,
Adjunct Professor of Obstetrics and Professor of Clinical Gynecology, Detroit College of Medicine.

Missed Labor; Fetus Retained Three Months.

D. Goldenstein (*British Medical Journal,* Nov. 12, 1904) was consulted by a patient who had become pregnant, and noted that after feeling the motion of the child it ceased completely one day, when labor pains set in and continued for a few hours. Apparently this attack of uterine pain occurred at term. No vaginal discharge followed. The patient's health was good, and all she asked for was to be delivered of the uncertainty of her condition. She was forty, and had been normally delivered eight times. She had enlarged spleen from malaria (living near Jassy). The abdomen was pendulous, with a small umbilical hernia. There was neither pain nor high temperature. The uterus on palpation seemed as large as at term; the fetal outline was clear. The cervix was very soft, the os admitted two fingers, the breech presented. Goldenstein ruptured the membranes, and a little fetid brown fluid escaped. He brought down the right foot with care, and had to extract the fetus very slowly, as it was in an advanced state of maceration, and he feared that the head might be torn off. The left femur was broken. The fetus was at length delivered entire. There were no uterine contractions, and no pain of any kind was caused by the manipulations. On compression of the fundus, the placenta—a necrotic mass—fell out. No hemorrhage followed. The uterus was washed out with a sublimate solution and the puerperium was normal. The fetus was nearly 20 inches long. Goldenstein notes the evident authenticity of this case as a "missed labor," the good health of the patient during the retention of the fetus, the entire absence of the uterine pains when the child was extracted, and the freedom from flooding or even from the least hemorrhage during or after extraction and removal of the placenta.

Ectopic Pregnancy.

R. E. Skeel (*Medical Review of Reviews,* Oct. 25, 1904) says it is a well known fact that the classical description of disease and its clinical picture often vary widely. In no condition is this more evident than in the symptomatology of ectopic pregnancy. It is often stated that missed menstruation is most prominent, but often the irregularity is so slight as not even to attract the attention of the patient.

Subnormal temperature is another point made by text-books, but much harm has been done by forgetting that the lowered temperature of hemorrhage and peritoneal shock is apt to be succeeded by slight and sometimes extreme elevation of temperature. The doctor says further that the characteristic local symptoms may one and all be absent, the physical evidences be absent or indefinite, but that hemorrhagic shock in a child-bearing woman with any symptoms pointing suspiciously toward the pelvis is sufficient justification for exploratory operation for purposes of diagnosis.

A long period of sterility is frequently mentioned as an antecedent ectopic pregnancy, but of fifteen cases three were primiparæ, two had been married less than a year, and one four or five years. The condition of the tube could be ascertained in eleven cases, and it was ruptured into the free peritoneal cavity in all of them. The severity of the symptoms due to rupture and hemorrhage seemed to depend upon the location, rupture near the uterus causing the most profound and sudden depression.

In regard to treatment, the doctor says that some cases have recovered without operation, but a low mortality-rate in this condition can be gained only by an early diagnosis established by frequent and repeated observations, definitely confirmed, if need be, by vaginal section and exploration and operation at any period, provided the diagnosis is reasonably certain.

The Use of the Stem Pessary.

J. H. Carstens (*Journal of the American Medical Association,* Dec. 10, 1904) says that dysmenorrhea in young girls is often produced by infantile uteri; when it occurs after thirty in virgins, by premature atrophy of the uterus.

The uterus can only be developed by exercise. This is accomplished by the stem pessary, as the uterus contracts and tries to expel it.

Recurring stenosis or flexions are often cured by the stem pessary if kept in for six months or a year.

Scanty menstruation in fleshy women is wonderfully improved by the use of the stem pessary.

Amenorrhea caused by any of the above conditions, or sometimes without our ability to recognize the cause, is promptly relieved in the same manner.

As all the above conditions cause sterility, the latter is often cured by the introduction of a properly fitting stem. Any kind of stem pessary will do, but the hard-rubber Chapman is the one used.

All pelvic diseases, ovarian or tubal, must be absolutely excluded. The stem is only used in disturbances caused by the uterus alone.

OPHTHALMOLOGY AND OTOLOGY.

UNDER THE DIRECTION OF R. W. GILLMAN, M.D.,
Clinical Professor of Ophthalmology and Otology, Detroit College of Medicine.

The Relation of Diseases of the Eye to Those of the Teeth.

Reber (*Ophthalmology,* vol. i, No. 1) submits the following propositions as a résumé of an exhaustive paper:

1. The ophthalmologist should seek the assistance of the dental surgeon in all cases of unexplainable paralysis of the accommodation, dilatation of the pupil, palsy or spasm of the external ocular muscles, rebellious corneal ulcers, phlyctenular disease, lacrimal fistula, orbital cellulitis, abscess, caries and periostitis, and in threatening glaucoma without apparent cause.

2. The dental surgeon should refer to the ophthalmic surgeon patients that develop any ocular symptoms whatever, and in particular those exhibiting altered pupils or accommodation, lowered vision, painful eyeballs and swollen lids, or orbital margins with prominence of the eyeball. The latter is particularly important, as pus in the orbit will almost invariably do some damage.

3. From two to ten days is the time wherein infection from an alveolar wound is most likely to take place.

4. The so-called reflex affections (traumatic hysteria) may occur at almost any time within six months after an extraction. Impressionable females are the likeliest subjects for the development of this puzzling phenomenon.

5. Eye-strain in certain diseases of the eye may give rise to neuralgias reflected along the dental branches of the fifth nerve, and thus make it appear as though the teeth were the primary offending cause.

6. The small and the first great molar most frequently provoke the process that later involves the antrum of Highmore, the lacrimal sac, and even the orbit.

7. As Garretson has well said: "A diseased tooth may express itself in almost any part of the body, while, on the other hand, disease in any part of the body may express itself in discomfort through a tooth."

The Treatment of Otitic Septicemia.

Alex Randall (*Journal of the American Medical Association,* Nov. 26, 1904) urges the frequent and full employment of enteroclysis in cases of otitic toxemia as a remedy potent and general in its effects, while almost ridiculously simple in its employment. The temperature may be warm, medium, or cold, as the inclination or condition of the patient dictates. The amount must vary from two or three ounces in the infant to a pint in some adults, in accordance with the capacity of the bowels. The introduction must be slow, with slight pressure—a foot of elevation of the reservoir is enough—and the perineum may need to be supported for many minutes after the withdrawal of the tube if retention is to be secured. Even if much of the fluid is lost, its flushing of the lower intestinal tract is of great importance, and the amount of absorption is generally greater than might appear. Quinine and other medicaments may be added to it, or the nutritive materials, if other means of feeding are unsatisfactory. But with all this simplicity, it is probably as efficacious as most of our possible interventions; and in the vague indeterminate cases where surgery must wait for clearer indications, it may often forestall serious complications and prove the means, not brilliant but real, of saving life.

Some Practical Remarks on Magnet Operations.

At the recent meeting of the British Medical Association Professor Hirschberg, of Berlin (*British Medical Journal,* Nov. 12, 1904), said that having worked with this instrument for twenty-five years he had now done 307 operations. He condemned the practice of placing the patient before the giant magnet in order

to ascertain if a foreign body were present by the presence or absence of pain. The result would often be to draw it from a more or less innocent position into the ciliary body, or perhaps it might withdraw it suddenly with the iris, and thus do much damage. He strongly urged the necessity of finding out for certain whether there were a foreign body present or not by means of the sideroscope or *x*-rays. When present it should—if at all practicable—be removed, and he prefers to use the hand magnet to the giant one of Haab.

As a rule, he thought it better to cut down exactly over the foreign body and then to introduce the point of the magnet, rather than of necessity to remove it from the front of the eye or through the point of entrance. Should the foreign body remain within the eye, it is almost certain to cause destruction of it sooner or later.

He thought that all varieties of magnets are useful, but for the majority of cases he prefers the hand magnet, although Haab's magnet has increased the number of curable cases we are now able to deal with in which pieces of metal had been embedded for a very long time.

Among 3018 cases in his own clinic, he found 64 of iron splinters in the retina or vitreous in the cases on which he operated. Of these, 36 or 56 per cent got good vision, and about one-third were operated with the hand magnet only; in 9 per cent the form of the globe, without sight, was retained. This was due to the extensive nature of the injury.

Summary of Twenty Years' Treatment of Myopia.

Ernest Clarke (*British Medical Journal,* Nov. 12, 1904) advocates the full correction of all cases of myopia and compound myopic astigmatism. His method is to estimate the ametropia under a mydriatic and to order the full correction for all cases. In high degrees the patients sometimes refuse to accept the full correction, but with this exception he never reduces the spherical glass for near work. Out of 532 cases which had been under observation for more than two years the majority showed no increase in the myopia, and in only three instances had the myopia increased as much as 4 D., and in only sixteen had there been any increase worth mentioning. In some it was necessary to stop all near work, but for these full correction was always given. If this principle were carried out generally, he feels sure that progressive myopia and high degrees will become almost unknown.

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THE BUSINESS MANAGER,
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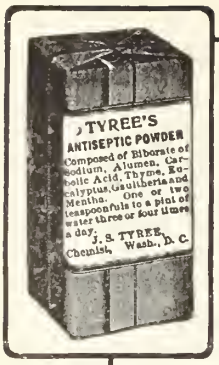
REPORT OF CASES.—In that "ancient day," the medical society meeting was indeed one of the most enjoyable, and at the same time, one of the most edifying occasions. It was at these meetings that one physician could unbosom himself to another—could, by reciting his mistakes, make himself proof against another by advice from co-workers. Unhappily for the general practitioner, these meetings are out of the temper of the times. The specialists too often consume the greater part of the State and national meetings with their special reports, and the general practitioner is not instructed, but often is so fatigued that he gladly exchanges the society rooms for the up-to-date pharmaceutical exhibits in another part of the building. The really helpful society work of the general practitioner lies in the proceedings of the county or district medical associations. Then good fellowship lives again there, and heart-to-heart work enables the one member to assist the other. In the spirit of one who reads a paper at a medical society, these cases are given for what essential interest they may possess.

Case 1.—Mr. H., aged sixteen, was taken ill in July, 1903, of acute articular rheumatism. He had frequent convulsive seizures that so closely simulated epilepsy as to be indistinguishable. He had been treated by three physicians, and had used opium freely. Upon examination, I found my patient decidedly anemic, he had a peculiar hacking cough, and upon physical examination I found valvular insufficiency along with dilatation and loss of compensation. The pulse ranged from 130 to 160 per minute. There was passive congestion of the liver, kidneys and lungs; the output of urine was scant, and of high specific gravity; this patient was so very nervous that his former physicians could get no rest for him unless they gave him morphine. I took away the morphine and had him take anasarcin tablets—three in the course of twenty-four hours. I overcame his constipation by the administration of one-fourth grain aloin tablets—one or two each night at bedtime. In less than three days from the commencement of the treatment, his circulation began to improve appreciably, his pulse went down to 80, and no further convulsions were seen. He now could also sleep well, and his appetite was good. I continued the tablets of anasarcin for some months and gradually left them off. The aloin pills were withdrawn after the patient's appetite was such that he could eat a sufficiency of such food as would leave enough intestinal residuum to stimulate the bowels to perform the office of evacuation normally. He has had no medicine for some time, and is in good physical condition.

Case 2.—Mrs. W. L., a resident of this town, thirty-five years of age, tall, slender, and underweight to a manifest extent. She came of tubercular parentage. On the 25th of last February she gave birth to a girl baby weighing six and three-fourths pounds. Her labor was perfectly normal in all respects. During the last months of her pregnancy I had noticed that her face and hands and lower extremities were considerably bloated. This led me to ask for a specimen of her urine. Upon examination, this was found to contain albumin. This is a common thing to find in pregnant women, but all experienced men regard it, and very justly too, as a danger signal, and it proved in this case a marked one indeed. After the after-birth had been delivered, I came home and ate my supper,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J. S. TYREE

Chemist

WASHINGTON, D. C.

but just as I was getting up from supper, I remembered I had left my medicine case at the patient's house, and I at once went for it. As I entered, the patient's mother said, "Doctor, I wish you would go in and see my daughter, as she is acting strangely." I entered the room just in time to see my patient go into a fit—and I realized that I now had to combat puerperal convulsions. The convulsion, upon which she was just entering as I went into the room, was in all respects a typical one. In a short while she was almost without pulse, her lips were purple and she presented a picture that was so horrible that I cannot ever forget it, and no pen can describe it. I at once gave her two granules of glonoin (1-250 grain each) and two of hyoscyamine, and then waited as composedly and patiently as I could do under the circumstances. In a half hour she regained consciousness, and I at once gave her three anasarcin tablets, and after that one every six hours. It was directed that she be given a full dose of Epsom salts every morning at 6. She had another convulsion, but after the anasarcin had begun to act her pulse came down from 120 or 130 to 80, and the volume was good and full, and in a week she had no trace of albumin, and the dropsical effusion of the face and lower extremities had all disappeared. I may also say that after getting up she was no longer troubled with hemorrhoids, which gave her a great deal of trouble.

Case 3.—B. A. T., aged forty, a plumber by trade, had been, for a considerable time, a sufferer with rheumatism. He had been treated in the hospital at Bangor, but failed to get relief. One leg was now the source of all the trouble, and several physicians regarding it as tubercular disease advised amputation. Finally he came to me for treatment. His right leg was swelled, edematous and painful, and such great pain did he endure when his leg was moved that he invented an appliance to prevent it being touched in going about.

I put patient on anasarcin tablets—four daily for several weeks. This gradually reduced the swelling and the dropsy which was so marked, and the patient ceased to suffer pain and made a complete

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recovery. Last week he came to see me, asking for advice regarding his sister's health. He now walked as well as any man, and appeared in excellent health. He told me, in response to my questions as to his condition, that "he was as tough as a beam and happy as a lark."—W. A. PURRINGTON, M.D., Sangerville, Maine. (Reprinted from the *Medical Progress,* August, 1904.)

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Its very agreeable odor will recommend it to many for use as any ordinary domestic antiseptic powder in substitution for the crude preparations which are now generally employed for this purpose.—Reprinted from *Chrystie's Monthly,* London, England.

EUCAIN: ITS SPHERE IN SURGERY, WITH REPORT OF A CASE OF RIB RESECTION.—With the necessary precautions 1- to 4-per-cent solutions of Eucain may be

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A case in which the author recently used 3 cubic centimeters of a 2-per-cent solution for the resection of a portion of the sixth and seventh ribs upon the right side demonstrates in a measure the claim I make for it as a safe local anesthetic.

Epps Arrington, colored, a farmer aged fifty-six, of a straumous diathesis, poorly nourished, had suffered with a typhoid infection twelve years ago. Measles six years previous resulted in a chronic bronchial affection, which disturbed him more in early winter than at any other time. Appetite fairly good at times. Was troubled with insomnia periodically, during which time micturition was frequent, though small in quantity. Was of a nervous temperament. Present weight 127 pounds.

Condition two days prior to operation showed no kidney, heart, or liver involvement, but upon auscultation deep mucous râles were in evidence throughout the larger bronchioles. A postnasal illumination revealed a rhinopharyngitis, an elongated uvula, and a severe chronic amygdalitis of both tonsils. Buccal mucous membranes very anemic. Pulse 84, no temperature rise forty-eight hours before operation. Habitual constipation.

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margin of the lower ribs and midway the right thoracic wall an unsightly discharge of foul-smelling, watery pus was observed, which upon bilateral pressure ran very freely. No enlargement of any consequence existed, but upon the insertion of a dull curette necrosed bone tissue was detected, likewise minute pockets characteristic of tubercular degeneration. Pain was a constant symptom upon manipulation, otherwise the place gave little physical inconvenience. Resection of both sixth and seventh ribs was advised and accepted, resulting in removing approximately 5 centimeters of the sixth rib and about one-half as much of the seventh. All foci of infection were broken up with a sharp curette, while the affected bony structure was cleansed thoroughly. An immediate and oft-repeated injection of a 50-per-cent solution of H_2O_2 as hot as could be borne thrown in the cavity, followed by a 1-per-cent of $K_2Mn_2O_8$, of which I used about 500 cubic centimeters, likewise as hot as the tissue could conveniently stand. The wound was loosely packed with a 1-per-cent strength of CHI_3 gauze with an abundant wad of 1000 to 2000 $HgCl_2$ gauze. Over this I placed an ordinary medium roller lint bandage secured by rubber adhesive strips.

Toilets as above every other day for seven days, after which the wound was treated as above minus the solutions. In eighteen days the place had completely closed. Four months after operation the man's weight is 169 pounds; he is free from cough and other symptoms and eats ravenously.

Judicious usage of Eucain will assist in enlarging its sphere in all branches of surgery, but negligence will easily render it a most dangerous drug.—LUCIEN LOFTON, A.B., Ph.G., M.D., Emporia, Va., Ex-president Seaboard Medical Association of Virginia and North Carolina (abstracted from the *Charlotte Medical Journal*, August, 1902).

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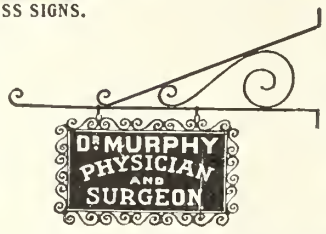

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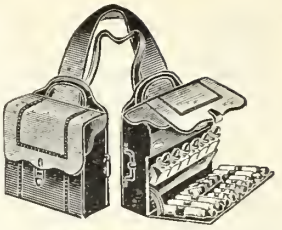

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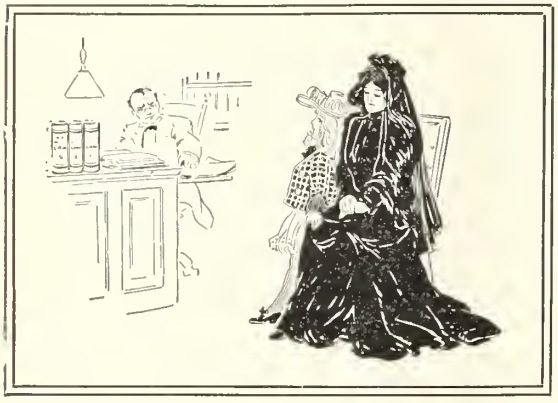

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flaxseed poultices, well made so as to retain their heat for four hours, were kept about the thorax during the day, and at night were replaced by a lamb's-wool jacket, for the better part of a week. It is important when poultices are used that they should be well made and should retain their heat for four hours, in order that the patient shall not be continually disturbed to change them. Fever patients need rest, not only sleep at night, but rest during the day. It is rarely wise to wake the patient, either for food, for medicine, for bath, or for any other application. Save in exceptional instances, sleep will do more to favor recovery than the agent for whose sake it is interrupted."

The time was when the above statements would have received the hearty indorsement of all thoughtful medical men. But this is not the ox-cart, candle, or horse-car age. We are living in the twentieth century. The old things must be laid aside. They are valuable only as antiques.

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To the notes below and on the following pages, also in future issues, we respectfully direct your attention.

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Box 484, Detroit, Michigan.

CHOREA AND ANEMIA.—In the etiology of chorea nothing is noted relative to anemia. It is simply accounted as an accompanying symptom of the condition. Medical literature emphasizes the relation between rheumatism and chorea, with anemia as an important symptom. After observation of several cases I am strongly of opinion, however, that anemia as a causative factor is worthy of investigation.

Anemia of toxic origin presents pathological conditions which favor the production of choreic affections. It is true that simple anemia is, as a rule, of secondary origin, and, viewed in this light, it may be argued that if chorea arises, it is the result of the primary and not of the secondary conditions—thus agreeing with the admitted etiology. This argument, however, will not satisfactorily explain those cases of chorea which arise remotely from the primary condition, but recently from the secondary effects.

I submit three cases in which symptoms, treatment, and recovery seem to intimate at least a possible relation between anemia and chorea.

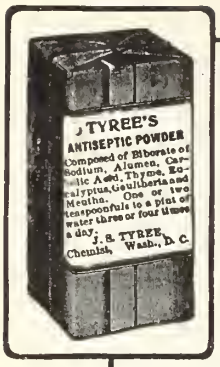
CASE I.—A female child of eight years gave a history of typhoid fever eight months prior to my visit. According to the mother's statement, the child had made a quick and good recovery, gaining rapidly in weight and exhibiting the energy of her former life. Six months later she became irritable and pale, with pain in her arms and legs, which condition was soon followed by gastric disorders and irregular spasms of the muscles of the face. Simple anemia was in evidence from objective and subjective symptoms alone, but was unquestioned in the light of the results obtained from blood examination—the red blood element being present to the extent of barely 3,000,000 red corpuscles per cm.

This case was treated with two teaspoonfuls of Pepto-Mangan (Gude) and two drops of Fowler's solution, three times a day. After gastric symptoms had abated somewhat, two raw eggs per day were added to the diet. The patient was discharged in five weeks, completely recovered.

CASE II.—A female child of ten years of age; gave history of malaria (a well-defined case of intermittent fever) one year previously. The pallid condition of the child induced the mother to solicit my aid. Upon examination, I found slight choreic movements which had escaped the mother's eye, though she did admit that the child "could not sit still very long at a time," and "was constantly working her fingers." The blood examination revealed no plasmodium. The red cells were reduced to 2,800,000 per cm., with a proportionate decrease of hemoglobin.

Pepto-Mangan (Gude) alone was employed in doses of two drams in a glass of milk three times a day. The blood examination four weeks later showed red cells present to the amount of 3,900,000 per cm., at which time I dismissed the case completely recovered.

CASE III.—A female child of thirteen years. Two months before my visit, the mother informed me, the child became peevish and pale, and was reproved at school for her inability to write neatly. She was taken from school, but she grew rapidly worse. Morning nausea, vomiting, headache, and anorexia were her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Chemist

WASHINGTON, D. C.

daily companions. I found her with pronounced histrionic spasm with involvement of the upper and lower extremities. Hemic murmurs were plainly apparent, but no endocardial irritation could be determined. The blood count showed reduction in red cells to 2,100,000 per cm. The hemoglobin was reduced to a degree greater than the red cells. A curious feature of the case was the morning nausea. Immediately upon awakening, she experienced nausea, which was followed by vomiting. I discovered, however, that this condition was superinduced by odors from the kitchen, and directed that a small sponge, moistened with creosote water, be placed over the nose and mouth before the preparation for breakfast began. The annoying symptom was promptly checked by this simple method. The anemia in this case may have been produced by malnutrition, but even this view is mere speculation.

The irritability of the stomach in this case was so pronounced that I did not deem it wise to give nourishment—not to speak of medicine—by the stomach. During the first four days rectal alimentation was employed. A nutritive enema, consisting of four ounces of peptonized milk and two drams of Pepto-Mangan (Gude), was given every six hours. Small amounts of peptonoids with creosote on ice were given by the stomach. Egg albumin was taken in all the water she drank. After four days, the stomach was tested with small amounts of milk and Pepto-Mangan (Gude). Beginning with four ounces of milk and one dram of Pepto-Mangan (Gude) every four hours, the amounts of each were rapidly increased, until after three days the patient was taking eight ounces of milk every two hours and four drams of Pepto-Mangan (Gude) three times a day. This diet, plus three raw eggs a day, together with the above treatment, was all that was employed for six weeks. The blood examination at this time showed a highly gratifying condition—the red

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cells being present to the extent of 4,100,000 per cm. The bloom of youth once more tinted the cheek, and the shrine of St. Vitus lost a visitor.—ROSHIER W. MILLER, M.D., PhG., Barton Heights, Va., in the *Virginia Medical Semi-Monthly*, May 13, 1904.

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CASE I.—Mrs. M. W——, widowed, aged forty-two, consulted me for nasal difficulty of several months' standing. An examination of the nasal fossæ revealed several very interesting conditions. There were grouped together possibly seven or eight foci of ulceration; some of these spots ran together, presenting more or less of a serpiginous ulceration. Each ulcer was covered with a dirty-gray, ash-colored exudate which adhered firmly to the underlying Schneiderian membrane. I first applied on absorbent cotton a 50-per-cent solution of peroxide of hydrogen, and having removed the purulent secretion sprayed the nose thoroughly with a 25-per-cent solution of Glyco-Thymoline in distilled water. I instructed the patient to report the day following for a renewal of the treatment, and to my surprise found a healthy looking surface in place of a suppurating wound. I repeated the spraying of the nasal fossæ some three or four times more, and complete healing took place, the nose returning to its normal condition within a week's time from the first application.

CASE II.—Mrs. F. K——, married, was brought to me for a disturbance of the throat, which, owing to the fact of a member of the lady's family having recently died of tubercular disease, was a source of much worry and mental anxiety to both the lady and her husband. The tonsils were somewhat congested, and showed upon their surfaces several little points of deposit dipping down into the tonsillar crypts. I immediately sprayed the tonsils with a full-strength solution of Glyco-Thymoline, and at the same time gave the lady a six-ounce bottle 50-

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per-cent strength to use as a gargle. In three days' time she called to get some more of the solution, which she stated was very prompt in relieving her of her troublesome tickling sensation. Upon inspection I found the throat entirely cleansed of all exudates, and the hyperemic appearance of the tonsils was entirely removed, the gland assuming an almost normal hue. I again sprayed the tonsils with a full-strength solution of Glyco-Thymoline, and renewed the bottle for her, or rather requested her to have the bottle refilled at the drug store. She called again to see me in a few days, and stated she was entirely relieved of all unpleasant symptoms, and did not think further treatment was necessary. I accordingly dismissed her as cured.—C. H. Powell, A.M., M.D., Professor Principles of Medicine and Clinical Medicine, Barnes Medical College, St. Louis, Mo.

Beadles advises the use of Hydrogen Dioxid in the following skin affections: Eczema, which may be sometimes aborted by prompt treatment; impetigo contagiosa; lichen planus, in which no other drug gives such good results; tinea versicolor, tinea circinata, chloasma, freckles, and bromidrosis. Dr. Simonelli has reported successful results in this method of treating tinea favosa. The application was made by means of compresses saturated with Hydrogen Dioxid of 10 to 12 per cent strength. Cochart and others conclude that it is an excellent prophylactic and curative agent in the treatment of pyodermatitis in its various forms. Acne, too, has been found to yield to the action of the pure solution.

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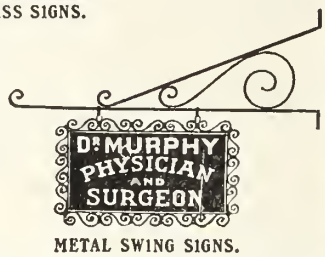

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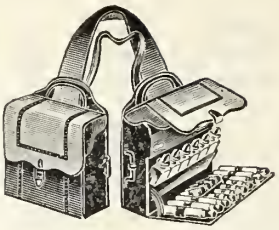

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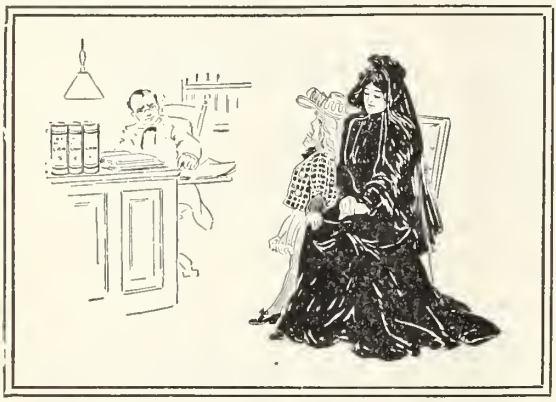

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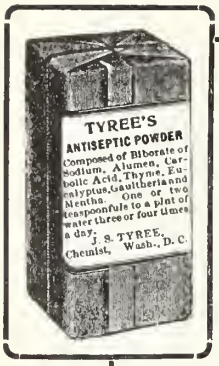
DR. D. B. HALE.


TYREE'S
ANTISEPTIC POWDER
Composed of Biborate of Sodium, Alumen, Carbolic Acid, Thyme, Eucalyptus, Gaultheriand Mentha. One or two teaspoonfuls to a pint of water three or four times a day.
J. S. TYREE,
Chemist, Wash., D. C.

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5. Dilutions up to 1 part in 50 are still germicidal. That gives great value and makes it economic. A gallon of Antisepsis need not cost above ten cents.

6. Scores of imitations. That proves great merit without a shadow of doubt. Only a worthless article escapes the rogueries of the counterfeiter.

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A Sample, with the following valuable Reprints, sent to Physicians free of charge:

Some Obstetrical and Gynecological Treasures of the Army Medical Museum. A Report on the Antiseptic Treatment of Surgical Cases at an Emergency Hospital Clinic, Rational Treatment of Cholera Infantum and Kindred Diseases, Clinical Lines on Prickly Heat and Kindred Affections of the Skin, Treatment of Acute and Ordinary Decubitus, Dental Antisepsis, etc.

J. S. TYREE

Chemist

WASHINGTON, D. C.

MT. VERNON, N. Y., June 3, 1903.

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IN the delirium of typhoid fever no remedy acts so pleasantly and effectively as Daniel's Conc. Tr. Passiflora Incarnata. It protects the patient against the debility of sleeplessness, which is so disastrous in active delirium. It possesses the power of giving restful slumber, and upon awaking the sufferer is refreshed and more composed. The improvement is steady from day to day until the accustomed strength is regained. It is a food for the great nervous system, and nourishes the ganglia through convalescence.

IT is not an infrequent occurrence for persons to complain of peculiar dull aches or nerve twitchings or sharp stinging darts of pain in their stumps. Investigation will disclose the fact that the lesions are nerve disturbances due to muscular inactivity, and as soon as the stumps are forced to do something the distress will almost invariably disappear.

Dr. S. G. Cook, of New York, United States Examining Surgeon, puts this phase of the subject in an interesting and unique light: "When a limb has been amputated, the stump or remaining portion frequently takes on queer antics and assumes conditions that are not in accordance with any known physiological or psychological laws with which I am conversant. For instance, it is no uncommon occurrence for a man who has lost a part of his leg by amputation to have a severe pain in the heel, foot, or toe of the lost member, or for those who have lost parts of their arms to have excruciating pains in the wrists, hands, or fingers of the amputated parts. To those unaccustomed to these incongruities this may seem absurd, but they are facts beyond

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controversion. It would seem that the stump, or part remaining after amputation, either resented the indignity that it has been subjected to, or else made its sorrow for its loss manifested by these means. The man who allows an amputated arm to hang indolently by his side makes a mistake. The muscles above the stump shrink and waste away for lack of nourishment and the nerves become irritable and neuralgic. An undisputed physiological law is that 'action increases strength,' and the reverse is just as true, that inaction produces weakness."

LACKAWANNA CO., PA., Feb. 5, 1901.

Mr. A. A. Marks:

DEAR SIR—I am writing you a few lines to let you know that I can handle a pen with my artificial right hand. I am at present working with the Lackawanna Iron and Steel Company, and am doing satisfactory work. I am a candidate for alderman in our ward and expect to be elected. I am now register of voters and do all my own writing, thanks to you and the useful artificial hands that you furnished me. If I succeed in being elected, it will secure a position for me that will last at least five years. It will make bigger demands upon my artificial arms, but I have no doubt that they will be equal to the work. The people in our ward say your artificial hands are wonderful when they see me writing. They say it is the greatest thing they ever saw.

I remain, JAMES G. BRADY.

THE Michigan Fur Company, of Detroit, makes an announcement on page 54 that should appeal very forcibly to medical men—especially to those members of the profession who are not so completely devoted to the well-being of others as to forget that they owe a thought now and then to their own health and comfort. This company makes a specialty of winter overcoats for physicians—fur coats, fur-lined coats, and fur-trimmed coats. Encased in one of these warm garments, the man of medicine on his daily rounds can

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bid defiance to the snows and blasts of winter. Not only does the firm guarantee its goods, but it sells direct to the wearer, thus eliminating the profit of the middleman. If you are in the market for a good, serviceable coat, write the Michigan Fur Company, Detroit, Mich., for its catalogue, which is sent gratis to physicians upon request, and which shows some fine garments—coats that indicate comfort, good materials, and good workmanship, and that have an air of style about them.

RESINOL CURES PERMANENTLY.—Owing to the excellent effect of your Ointment and Soap I feel in duty bound to write you. My little nephew was troubled with eczema for about two and a half years and was one of the greatest little sufferers imaginable. From the beginning of this disease he was under the best medical attention procurable, but received only temporary relief. I insisted on giving the Resinol remedies a test, and I am pleased to say they effected a cure, and the little fellow has enjoyed his sleep for the past three years and continues in good health.—DR. OTTO B. PRICE, Moncton, N. B., Canada.

TANNALBIN IN THE DIARRHEA OF CHILDREN.—Dr. W. A. Demidov, after briefly reviewing the literature on Tannalbin, states that he has been using the drug since 1899. The first year his results were not satisfactory because he had been using too small doses; but after using large doses he recommended Tannalbin in the diarrhea of children in the warmest terms. His experience with Tannalbin in large doses has been with forty-three cases. In age the children ranged from four months to five years, and their complaints were classified as 19 cases of purely intestinal and mixed dyspepsia, 18 of acute enteritis—of the small and large intestine—and 6 cases of subacute and chronic enteritis. The treatment with Tannalbin was preceded

PASSIFLORA

A PHYSICIAN OF 30 YEARS' EXPERIENCE SAYS: I HAVE USED **DANIEL'S CONCT. TINCT. PASSIFLORA INCARNATA** TO QUIET NERVOUSNESS, INSOMNIA, AND IN CONVALESCENCE AFTER TYPHOID FEVER. I HAVE ALSO GIVEN IT TO WOMEN SUFFERING FROM ENDOMETRITIS AND IRRITATION FROM OVARIAN TROUBLE. IN CASES OF INSOMNIA DUE TO ALCOHOLIC EXCESS, I FIND IT INDUCES NORMAL SLEEP. WHERE A CALMATIVE IS NEEDED, PASSIFLORA IS EXCELLENT.

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Methods employed render these addictions the most certainly and readily curable of all the chronic ailments. For particulars address the Retreat most convenient to you.

by a laxative, such as calomel, castor oil, or rhubarb; the Tannalbin being administered in the following doses: To children between one and six months, 1½ to 4½ grains; from six to twelve months, 5 to 6 grains; children in the second year were given 8 to 10 grains. The doses in each case were repeated every one or two hours until the cessation of the diarrhea. As soon as the number of passages was diminished and the feces became solid, the Tannalbin was given only four to six times, and then only twice daily—either given *per se* or in combination with pulvis gummosus (a mixture of acacia and sugar), althea, Dover's powder, or small doses of calomel.

Basing himself on four years' experience, the author has reached the following conclusions:

1. Tannalbin is an excellent antidiarrheal in the ordinary infantile diarrhea (caused by acute or chronic enteritis or dyspepsia). In dysentery and cholera infantum Tannalbin is not so effective.

2. It produces good results only when given in large doses. Small doses are useless.

3. The employment of Tannalbin does not exclude the employment of other drugs and methods.

4. Even in large doses and under long-continued use Tannalbin does not cause the slightest disagreeable by-effects.

5. On account of its tastelessness Tannalbin is a preparation well suited for pediatric practice, as it can be administered in milk, bouillon, barley, soup, etc. —*Deut. med. Zeitung*, 1904, No. 52.

MOBILE, ALABAMA, Oct. 17, 1900.

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Times Building, New York:

GENTLEMEN—For a long time I have looked for a syringe which would thoroughly distend the vaginal folds in order to cleanse each one from any deposit or formation of deleterious matter existing therein. I have given your Marvel Whirling Spray a severe test, and I am glad to say that it is exactly what I require in every case of vaginal irrigation, for I am now convinced that the Marvel Syringe will, through its action, permit no secretion to remain after following the directions as given. I always recommend the Marvel Syringe and the Marvel Antiseptic Tablets to my patients.

Very truly yours,
JOHN J. MCMAHON, M.D.

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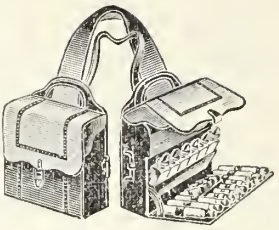

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RESINOL STOPS ITCHING.—Am always glad to receive samples of Resinol Ointment and Soap. I use them regularly in my practice, and find no preparations better in cases of local irritation and where itching is an annoying symptom.—J. W. C. O'NEAL, M.D., Gettysburg, Pa.

IN connection with conducting a quiet, homelike place for the special nervous and mild mental troubles for which his home has become quite favorably known, Dr. P. W. Ransom, of Rockford, Illinois, has developed a very satisfactory treatment for morphine and other drug addictions, whereby results that by the slow reduction methods which were long drawn out and quite often uncertain as to results, even when under close observation by a physician in a regular institution for treatment of such cases, are now promptly and accurately secured by the proper use of Hyoscine Hydrobromate. To properly care for a patient during this treatment the case should be under the constant care of the physician and specially trained attendants in some institution if possible. Proper care should be exercised in preparing the patients for the treatment, and by thus doing about all pain and much inconvenience are avoided.

The active treatment lasts for two to four days, and properly carried out should be restful to the patient, and generally there is no loss of consciousness, excepting during the quiet sleep that usually accompanies this treatment. After the active treatment there should be no desire for any drug; patient should have a good appetite and suffer no inconvenience. However, patients should not consider themselves well no more than after a severe surgical operation, for the nervous system needs help, and we can hardly expect the normal functions of the body to be reëstablished; so patients should remain long enough to balance up

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again after the lengthy indulgence in the pernicious use of these drugs that have so completely mastered them.

Dr. Ransom has no secret methods of treatment, and would be pleased to more fully outline his work for the benefit of any physician.

COMMENT ON ANTIKAMNIA AND HEROIN TABLETS.—Under the head of "Therapeutics," the *Medical Examiner* contains the following by Walter M. Fleming, A.M., M.D., qualified examiner in nervous and mental diseases for Supreme Court, New York City, regarding this valuable combination: "Its effect on respiratory organs is not at all depressing, but primarily it is stimulating, which is promptly followed by a quietude which is invigorating and bracing, instead of depressing and followed by lassitude. It is not inclined to affect the bowels by producing constipation, which is one of the prominent effects of an opiate, and it is without the unpleasant sequels which characterize the use of morphine. It neither stupefies nor depresses the patient, but yields all the mild anodyne results without any of the toxic or objectionable phases. When there is a persistent cough, a constant 'hacking,' a 'tickling' or irritable membrane, accompanied with dyspnea and a tenacious mucus, the treatment indicated has no superior. In my experience I found one 'Antikamia and Heroin Tablet' every two or three hours, for an adult, to be the most desirable average dose. For night-coughs, superficial or deep-seated, one tablet on retiring, if allowed to dissolve in the mouth, will relieve promptly, and insure a good night's rest. In short, it will be found futile to delve for a more prompt and efficient remedy than 'Antikamnia and Heroin Tablets' in all bronchial complications with laryngeal irritation, dyspnea, asthma, winter-cough, and general irritability of the thoracic viscera."

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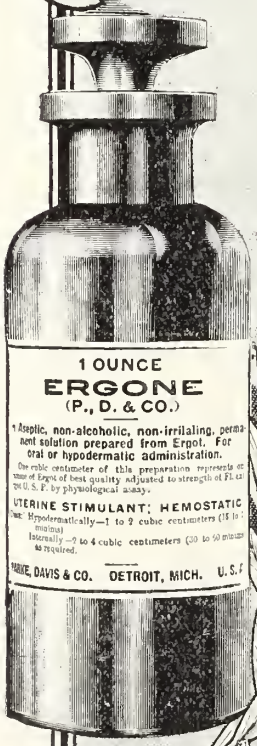
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Aseptic, non-alcoholic, non-irritating, permanent solution prepared from Ergot. For oral or hypodermatic administration.
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Why should they?

Ergone is Distinctly BETTER.

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It is Aseptic, Permanent,

and always ready for use, either internally or subcutaneously.

It is Preserved with Chloretone,

which acts also as a local anesthetic, making the hypodermatic injection practically painless.

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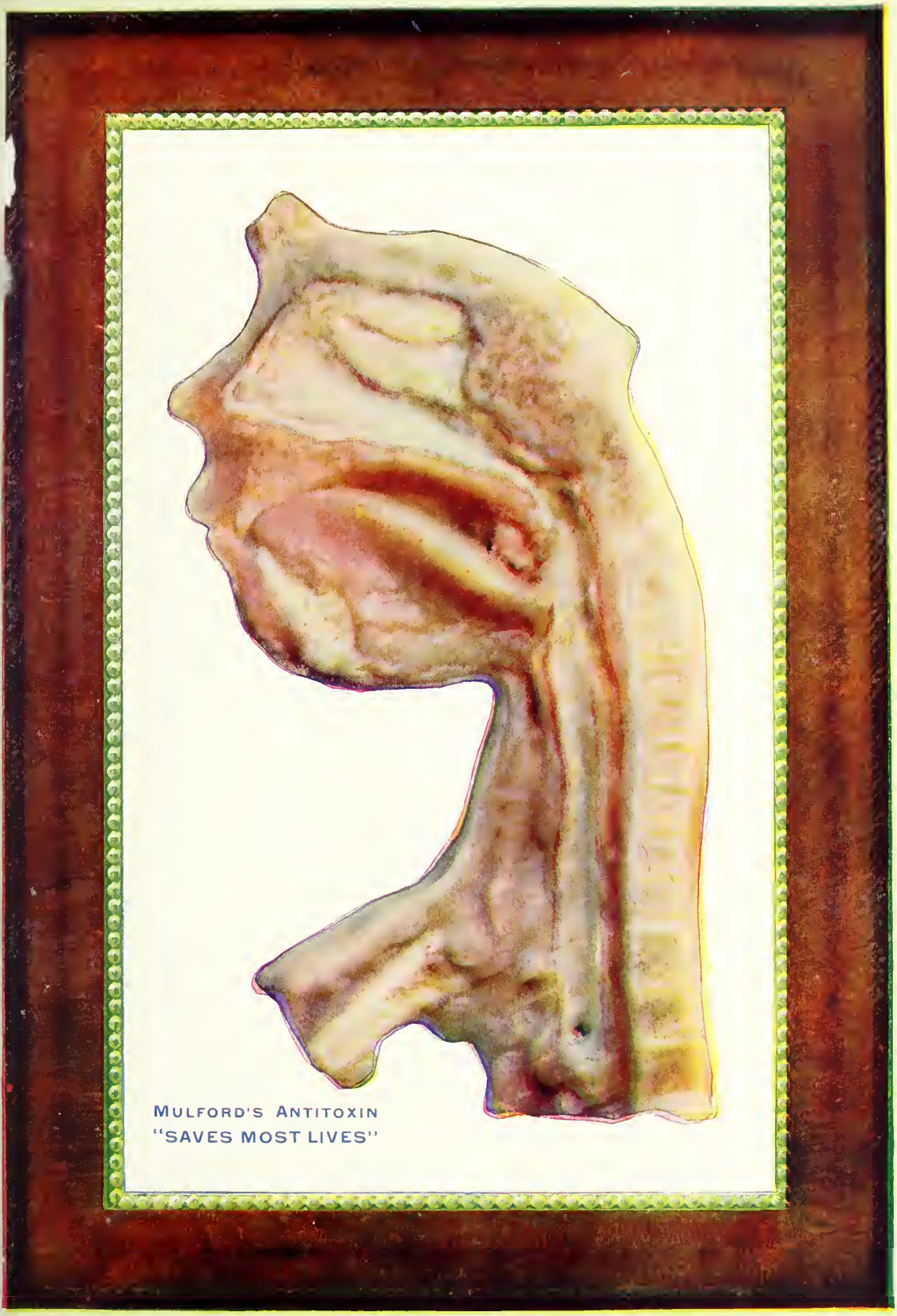
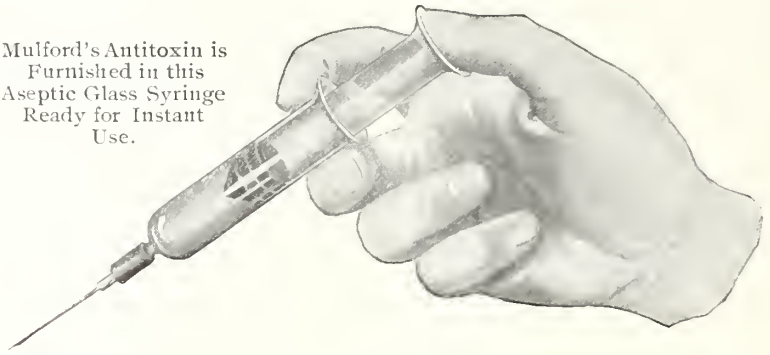


NASAL DIPHTHERIA, WITH TONSILLAR AND LARYNGEAL INVOLVEMENT

Note small amount of membrane present on tonsils. Important to examine naso-pharynx in every case and not wait until membrane develops in the anterior nares. In Nasal Diphtheria administer 8000 to 10,000 units of Mulford's Antitoxin; repeat every six to eight hours.

Mulford's Antitoxin is Furnished in this Aseptic Glass Syringe Ready for Instant Use.



REPORTS of 1902* from twenty-five of the leading cities of the United States, show:

That the average mortality from Diphtheria **where Antitoxin was used was 6.48 per cent.**

The mortality from Diphtheria in the same cities,

Where Antitoxin was not used was 32.5 per cent.

This means that Antitoxin has reduced the mortality over **three-fourths, and that over 75 out of every 100 recovering from Diphtheria owe their lives to Antitoxin.**

Early Use Important

The same reports show the results of giving Antitoxin early and in delaying its use.

The average mortality of cases treated with Antitoxin:

On the First day, was	**1.45 per cent**
Second day,	**3.9 per cent**
Third day,	**5.67 per cent**
Fourth day,	**7.29 per cent**
Later than Fourth day,	**14.49 per cent**

Dr. H. C. Wood says that as soon as Diphtheria is suspected Antitoxin should be used. If Diphtheria develops, the disease is under control; if diagnosis is not confirmed, no harm has been done by the use of a reliable Antitoxin.

The Chief Justice of one of the State Supreme Courts says: "Any physician who delays administering Antitoxin until the later stages of Diphtheria is guilty either of criminal negligence or criminal ignorance."

*Full detail reports, with new literature, mailed upon request.

Immunity to Diphtheria

All authorities agree that 1000 units of Antitoxin, administered to those exposed, give absolute protection against Diphtheria.

Mulford's
Antitoxin is Absolutely Harmless

During the last ten years millions of doses of Mulford's Antitoxin have been given without a single unfavorable result.

Mulford's Antitoxin is prepared in the largest and best-equipped laboratory in existence devoted to the **exclusive** production of Antitoxin.

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Every Dose is Furnished in an Aseptic Glass Syringe

This idea originated with us and was perfected before we offered it to the profession. Physicians write us enthusiastic letters commending it in the highest terms. We supply Antitoxin in one style of package only—**and that the best.**

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Air never touches the serum and cannot contaminate it! Air cannot be injected from our syringe with the subsequent danger of causing an embolism!

Always ready for any emergency! The rubber tube connecting needle with syringe avoids any danger of lacerating the flesh or breaking the needle in the patient.

One hand has absolute control of the syringe, leaving the other hand free to control patient or for any emergency. The syringe is carefully annealed and there is no danger of a broken syringe injuring the physician's hand.

Should you be unacquainted with our Serum-Syringe Container, we will be glad to forward free a water-filled syringe for demonstration.

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From back of hand and wrist. Type discrete; tenth day of development.
Note character of pustules, pitting and areola.
Write for new brochures on Antitoxin and Vaccine. Mention this Journal

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To the notes below and on the following pages, also in future issues, we respectfully direct your attention.

Very truly yours,
THE BUSINESS MANAGER,
Box 484, Detroit, Michigan.

ON THE HEMOSTASIS AND AFTER-TREATMENT OF MEATOTOMY.—When the external urethral orifice is very narrow it is not unfrequently necessary to increase its lumen by a meatotomy for diagnostic and therapeutic purposes. The little operation is facilitated by infiltration anesthesia after Schleich of the frenulum, and by anemia effected by an elastic bandage over Nélaton catheter introduced into the urethra. The only difficulty that we meet with is the secondary hemorrhage that occasionally occurs. To cope with it the author employs a little instrument which he calls a urethral plug, which is a funnel-shaped sound measuring from twenty-eight to thirty Charriére, provided with a temporary obturator. One end of this obturator is designed to facilitate the introduction of the instrument, whilst the other serves to emplace the tampon to be described later. The material employed for the tamponade is roughly grated Glutol. The funnel is introduced dry into the orifice of the urethra after its incision, the canal is persistently swabbed dry, and the cavity of the instrument is filled with the Glutol to about the middle of the funnel. The material is then slowly packed down to the upper margin of the funnel tube, the smooth obturator introduced to fix the plug, and is held in place to prevent movement of the tampon whilst the funnel is being slightly withdrawn. Thereupon more Glutol is introduced until the funnel tube is filled to its upper margin, the obturator introduced, and the funnel withdrawn still further. When the instrument is finally removed a firm tamponade of the entire surface of the wound up to its anterior edge at the orifice of the urethra has been effected. The rubber constricting band is then removed.

The plug of Glutol either immediately controls the hemorrhage, or if it persists the swelling of the material soon compresses the vessels secondarily and stops it. The patient should not urinate for several hours after the operation; when he does do so he should exert no pressure, since the plug comes out without any difficulty at all. An especial advantage of the method lies in the fact that adhesion of the edges of the wound cannot occur. —DR. J. BAER, of Wiesbaden (from *Medico,* May 8, 1901, p. 280; *Centralblatt für die Krankheiten der Harn und Sexual-Organe,* April 13, 1901).

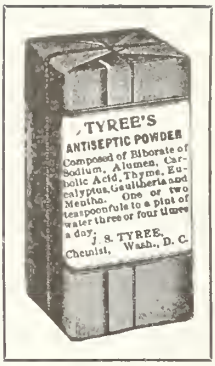
THE Thirtieth Annual Session of the Mississippi Valley Medical Association will be held at Cincinnati, Ohio, October 11, 12, 13, 1904, under the presidency of Dr. Hugh T. Patrick, of Chicago. The headquarters and meeting places will be at the Grand Hotel.

The annual orations will be delivered by Dr. Wm. J. Mayo, of Rochester, Minn., in Surgery, and Dr. C. Travis Drennen, of Hot Springs, Ark., in Medicine.

Request for places upon the programme, or information in regard to the meeting, can be had by addressing the Secretary, Dr. Henry Enos Tuley, Louisville, Ky., or the Assistant Secretary, Dr. S. C. Stanton, Masonic Temple, Chicago, Ill.

The usual railroad rates will be in effect.

ERGOAPIOL (SMITH) IN DISEASES OF THE FEMALE.—A deep and general interest is attached to all knowledge pertaining to the treatment of common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Composed of Biborate of Sodium, Alumen, Carbolic Acid, Thyme, Eucalyptus, Gaultheria and Mentha. One or two teaspoonfuls to a pint of water three or four times a day.
J. S. TYREE, Chemist, Wash., D. C.

TYREE'S POWDER

FOR

Summer Hygiene

TYREE'S Antiseptic Powder is now accepted even by skeptical physicians as a remedy to be depended upon. It was first used ten years ago by a few Washington physicians for diseased conditions of the genital tract. Now it is being used practically all over the world by the leading hospitals, physicians and dentists as a standard prescription to regulate diseased conditions of the mucous membrane whether due to external or internal cause, and to keep it in a healthy condition attending a season when **Prickly Heat, Poison Oak, Eczema, Hydrosis, Lupus Vulgaris, Decubitus, Dysentery, annoying Pruritus, Vaginitis, Leucorrhea, Nasal Catarrh, Sore Throat, Ulcers, Wounds** and kindred diseases are most prevalent. Its application is extremely simple and harmless even to children. The price is very economical, a sample, with the following valuable reprints, sent to physicians free of charge:

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Clinical Lines on Prickly Heat and Kindred Affections ot the Skin.

Treatment ot Acute and Ordinary Decubitus.

Dental Antisepsis, etc.

J. S. TYREE, Chemist, Washington, D. C.

diseases of the uterus, to which women are subject, and a vast literature is the outcome of this profound and focused interest. We live to-day in an age of transition—a period of change. A great many of the former theories in medicine are fast passing away. New medicines are made, achieve a short-lived success, and then pass on to obscurity. This is true most especially in medicines for gynecological diseases. Of the newer remedies it is hard indeed to get one that may be depended upon for long; they soon lose their reputation and potency and are relegated to the past.

We know that all diseases of the womb have not the same etiology nor the same pathology, therefore they should not all have the same treatment. Far too often the general practitioner groups all these diseases together as one and gives the routine treatment. It is not enough to give anodyne medicines for dysmenorrhea no more than it is sufficient to treat alike all forms of dysmenorrhea.

The operation of curettement has a most important place in these conditions, but like other remedial agencies it has its limitation. When we curette the uterus we rid it of a pathologically obnoxious lining membrane, and afford a normal membrane the opportunity to be formed.

The healthy woman with normal genitalia menstruates regularly and painlessly once a month from puberty to the "turn" of life, except that this regularity is interrupted by pregnancy and afterwards by lactation. Any departure from this rule constitutes an abnormality. Amenorrhea is less frequently met with than dysmenorrhea and irregular menstruation. The present age of transition has brought forth what is popularly known as the "new woman," and she has brought with her new ideas and practices which in very many cases retard growth and the natural process necessary for perfect health. For leaving the old landmarks, she has to suffer.

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rhea, irregular, scanty, and fetid menstruation, in my judgment, is a preparation of the Martin H. Smith Company of New York, known as Ergoapiol (Smith). In the female ward of the Lincoln Hospital, Durham, N. C., I have used this medicine very extensively, and it has not only never failed to benefit and cure, but I know no remedy with which I could replace it were I deprived of it. Its efficacy may be tested by any physician who properly tries it. I mention a few cases, with short description of each, in which it has given the most signal benefit in my hands.

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Case 1.—Mrs. F—— was admitted to hospital September 15, 1901; married; no children, though she had been married four years. Had not menstruated for seven years. Womb had been curetted several times; suffered from leucorrhea; pains in right and left iliac regions continuous. Examination showed a very small os, but generative organs were otherwise found to be normal. Another curettement failed to bring on the menses. I then prescribed Ergoapiol (Smith), to be taken one globule three times a day, and afterward increase to one globule four times a day. After seven days of this treatment she complained of a general feeling of stiffness in her limbs, gaping, and a feeling of malaise. The following morning she found to her delightful surprise that she was menstruating for the first time in seven years. At that time the flow was somewhat scanty, but the treatment was continued through three periods. Each succeeding period

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was more nearly normal than the one that preceded it. Now her functions are regular, and I know no reason why she may not become pregnant.

Case 2.—Mrs. S—— complained of a continuous, dull, dragging pain, situated in the region of the iliac fossa of the right side. Menstruation irregular, scanty, fetid. Married six years; had never been pregnant. Excessive leucorrhea, though otherwise she was perfectly normal. Her weight was 140 pounds. Her condition, and the suffering, both physical and mental, which it occasioned her, was rapidly undermining her health. She was becoming emaciated, appetite of no consequence, general weakness. She considered her condition "hopeless." Cardiac weakness, of which she was a victim, contraindicated curettement—which usually cures "whites" and allows the formation of a healthy lining membrane. Ergoapiol (Smith) was prescribed for her, one capsule three times a day. In conjunction with this I gave tonic medicines. After six weeks' use of this remedy the woman said she was "feeling so good" that she did not need any further treatment. She had increased in weight and her appetite had become all she could wish. The menstrual flow was increased, and now, five periods having elapsed from the time treatment was instituted, her monthly flow has failed to appear. She does not expect its return for some time—supposing herself pregnant.

Case 3.—Miss S—— suffered severe pain each month beginning a day before the flow came on. The flow was a thick, clotted mass, consisting of membrane and the menstrual blood matted together. She had suffered from puberty, and the suffering became more intense as the years passed on. She was nineteen years of age, stout, of healthy parentage. Admitted to Lincoln Hospital January 15, 1902. She declined an operation. I afterward prescribed Ergoapiol (Smith), and have continued it for one month. Her next menstruation was free and easy, painless and regular. I doubt not that

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keeping up this treatment up to another period she will be entirely rid of the hitherto troublesome condition.

Case 4.—Miss W——. Tubercular history. Menstruation very irregular, sometimes three, sometimes five weeks between periods; very painful and scanty. I prescribed Ergoapiol (Smith), one capsule four times a day, beginning one week before the menstrual period and continued a week after the period. As a result of this treatment the patient feels a great deal better in her general health; her monthly flow has been rendered painless and increased in quantity. Ergoapiol has a tonic action upon the muscular fibers of the womb. Its effect is not transitory but lasting. This superior preparation is decidedly tonic.

Case 5.—Mrs. D——. A victim of endometritis. Pain continues between periods and is aggravated at periods. Leucorrhea was very pronounced; pains in the back; "hot flushes;" vertigo; headache. Patient would not allow an operation; highly sensitive. Several preparations were tried, but none gave relief until Ergoapiol (Smith) was used. It has entirely relieved the patient, and she is now loudly singing its praises. In this case treatment was kept up for ten weeks.

Ergoapiol has never failed in my hands. It is not possible that it can cure obstructive dysmenorrhea, but with that exception it is indicated in all the other diseases of the womb where a tonic and sedative action is the requirement.

Case 6.—Mrs. D——, widow, aged thirty-three; had three children, youngest ten years of age. She had suffered all her menstrual life severe pains in the pelvis at each period; had to keep in bed a week or more each month; paroxysms of pain were followed by a flow of the "whites;" no anemia; womb found to be flabby and relaxed; pains extended down thighs posteriorly. Had been treated for many years by various physicians of note, but had received only temporary benefit. Ergoapiol (Smith) was given her, one capsule three times a day, and increased at the time of the flow to four a day. After three months of this treatment her menstrual function became regular, and being entirely well now she feels that life, after all, is worth living.

I could prolong this list indefinitely with records of cases that have been entirely relieved of these conditions, and I shall be pleased to furnish any information desired as to Ergoapiol (Smith) and its use.—CHARLES H. SHEPARD, M.D., Physician to Lincoln Hospital, Durham, N. C.

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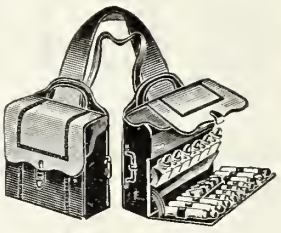

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THE NECESSARY H_2O_2.—At the forty-first annual meeting of the American Medical Association, held in Nashville, Tenn., May, 1890, Dr. Robert T. Morris, of New York, read a paper on the above subject before the Section of Surgery and Anatomy (abstract from the *Journal of the American Medical Association*, Aug. 9, 1890). To stop suppuration, when efforts to prevent it have failed, is the duty of the surgeon. Dr. Morris graphically and truly said:

"As the ferret hunts the rat, so does H_2O_2 follow pus to its narrowest hiding place, and the pyogenic as well as the other microörganisms are as dead as the rat the ferret catches, when the H_2O_2 is through with them. Peroxide of Hydrogen, H_2O_2, in the strong 15-volume solution, is almost as harmless as water; and yet according to the testimony of Gifford it kills anthrax spores in a few minutes. For preventing suppuration we have bichloride of mercury, hydronaphthol, carbolic acid, and many other antiseptics; but for stopping it abruptly, and for

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In purulent conjunctivitis the eye can be built around with wax, pus destroyed, and suppuration stopped by H_2O_2. Ether or cocaine may be used if the H_2O_2 causes too much pain.

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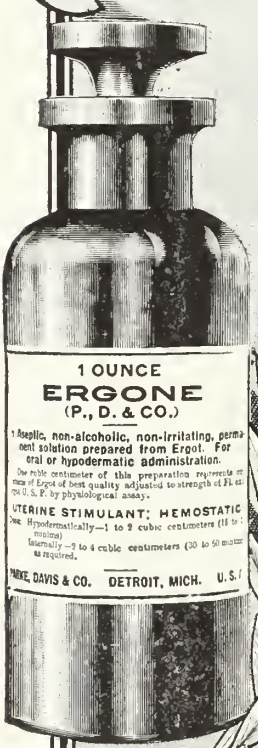

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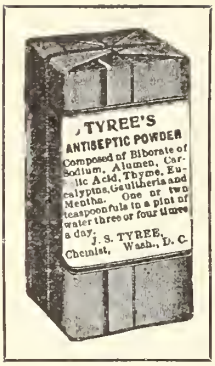
GLYCO-THYMOLINE AS AN ACTIVE DEPLETANT IN PELVIC CONGESTIONS.—The presence of congestion or inflammation, whether acute or chronic, involving the female pelvic cavity forms grounds for anxiety. Fortunately we have passed the age where operative conclusions are hastily made. A superficial study of the vascular supply of the female pelvic organs with its vesico-vaginal and vesico-uterine plexus forming a complete network of anastomosis, is sufficient to show that local applications of depleting agents to the vaginal and rectal canals form both practical and theoretical ideas in treatment which by purgative action reduces the stasis of engorged cellular tissue and lowers vascular tension, thus aiding nature in restoring normal glandular action. Glyco-Thymoline in contact with mucous membranes everywhere produces the following physiological activities in direct proportion to the vascularity of the structure: It stimulates the secreting cavity of glandular structures of all mucous surfaces, so that larger quantities of watery fluids are exuded. On the law of exosmosis, which determines the passage of fluids through animal membranes from a rare to a more dense saline medium, this solution through its stimulating and hygroscopic property brings about a rapid depletion, drawing outwardly through the tissues the products of inflammation and materially reduces the danger of septic infection. The following clinical cases bear with interest on the subject: Chas. Le Cates, M.D., Phila., Pa., reports: Mrs. A. consulted me in reference to her condition. Made a thorough examination and found uterus much enlarged, very turgid, degeneration of the endometrium, discharge rather profuse. Treatment: Hot vaginal douche 10% Glyco-Thymoline. I then irrigated the uterus with pure Glyco-Thymoline. This treatment was given twice and three times a week. Improvement was rapid, congestion removed and patient discharged in six weeks. I see the patient frequently and there has been no recurrence of former trouble.

J. W. Lipscomb, M.D., Chicago, Ill., reports: Mrs. C. gave history of suffering several days with agonizing pain in pelvic region. Upon examination I found the vagina and uterus to be very tender, the slightest jar causing pain. My diagnosis was cellulitis, with cervical endometritis. There was a foul, blood-stained, muco-purulent discharge. Patient was emaciated, tongue thickly coated, breath foul, bowels constipated, and considerable fever. Having Glyco-Thymoline in my case, I made up a solution of one ounce to the pint of hot water, which was used as an intrauterine irrigation, thoroughly flushing out the cavity and vagina. Relief was at once apparent. Tampons saturated with pure Glyco-Thymoline were then introduced. Daily vaginal douches of Glyco-Thymoline one ounce to pint were ordered, which with the usual constitutional treatment, brought about a rapid recovery. Chas. W. Gowans, M.D., St. Louis, Mo., reports: Mrs. R., diagnosed as endometritis, resulting from retained placenta. This was undoubtedly the worst case I ever saw or wish to see. The discharge and odor emanating from the uterus were simply indescribable. I douched with sterile hot water and Glyco-Thymoline two parts water to one part of the antiseptic. The result was certainly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most pleasing and effective, rapidly reducing the inflammation, destroying the odor and making the parts fresh and clean. I have nothing but praise for your preparation.

Bruises, sprains and abrasions consequent upon tennis, golf, mountain climbing and other outdoor sports are prevalent at this season. Infected wounds are frequent and disabling. Country life also brings the results of contact with poison-ivy, poison-oak and the various venomous insects with their characteristic weapons of offense. In all these cases the physician's first thought should be Antiphlogistine. It reduces inflammation of all sorts better and more quickly than any other application, while for poisoned wounds and dermatitis venenata it is almost a specific.

NEUROTIC CONDITIONS IN WOMEN.—Prof. Chas. J. Vaughan, Chair of Gynecology, Atlanta College of Physicians and Surgeons, writes: "Neuralgia constitutes the great cause of danger from the employment of hypnotics and narcotics, which only afford relief by numbing, but effect no cure. On the other hand, the formation of a drug habit rather aggravates the condition from which relief was originally sought. Neurasthenia, neuralgia and other manifestations, either of an active or passive character, are common and are always peculiarly rebellious to treatment. Cerebro-nervous affections peculiar to women associated with pathological disturbances of the reproductive organs are legion, and most trying to physician and patient. I have found nothing so well suited to these cases as Antikamnia Tablets, administered in doses of from one to three tablets and repeated every one, two or three hours according to the attendant's judgment. These tablets afford complete relief without fostering a drug habit and their exhibition is attended with no unpleasant after-effects. For the relief of painful menstruation

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there is no combination of remedies so generally successful as Antikamnia and Codeine Tablets. Their sedative, analgesic and anodyne properties especially commend them in the neuralgic and congestive forms of this distressing affection."

DROPSIES; THEIR NATURE AND TREATMENT.—Prof. Austin Flint opens his chapter on dropsy in his work on the practice of medicine, with this title: "Transudations.—Dropsies." He then goes on to say that dropsy is "A morbid condition affecting the composition of parts, and consists in an abnormal accumulation of liquid, exterior to the vessels, derived from the blood." The transuded fluid holds in solution more or less of the constituents of the blood serum. The transuded liquid preserves its fluidity. Transudations may take place in many different situations. When, however, a transudation takes place in a portion of the body where the liquid can not escape, it becomes a dropsy. When fluid is poured out on a mucous surface and is passed out of the body, it is known as a flux.

As pointed out by observers, dropsy is not the result of inflammation. Inflammation of serous membranes gives rise more or less to liquid effusion, but this is quite dissimilar to the dropsical liquid. The liquid deposit following inflammation is turbid from the admixture of lymph, and it holds more or less fibrin. A purely dropsical fluid, on the other hand, is clear like the serum of the blood and holds no fibrin or lymph. In all cases of pure dropsy, the effusion bears a strong resemblance to the serum of the blood. Still the ingredients of the effusion differ in many cases. It is generally found to be alkaline in reaction, and albumin is a constituent rarely absent. It is said that transudations in the pleura are found to be richer in albumin than those found elsewhere in the economy. When the quantity of albumin is large in the effusion, it is liquid. The effusion is sometimes found to be red, this being due

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to the blood pigment or hematin. Occasionally, as can be readily understood, the effused liquid may be yellow, green or milky, as it may be mixed with bile pigment and fatty matter.

Dropsies are usually named with regard to their situation. If they are seated in the serous membranes, they are usually designated with the prefix hydro before the name of the membrane, as, for instance, hydro peritoneum, is the term used by Prof. Austin Flint to designate peritoneal dropsy—abdominal dropsy, ascites. Dropsy of the areolar tissue of a portion of the body is designated edema. This applies alike to effusions of the areolar tissue of the internal organs, as to the integument. The term anasarca is applied to edema when it extends over the body.

Dropsy is never an independent disease process, but always owes its existence to some antecedent morbid activity in all instances. It is dependent upon two general causes. These, as pointed out by Flint, are, "1st, By increased pressure from an accumulation of blood in the veins," and "2d, by diminishing the density of the blood serums." These two physical conditions comprise the mechanism of dropsical transudations.

The terms local and general dropsy are employed, and their significance is important.

In general dropsy, a greater or less degree of effusion in certain serous cavities is always found. The edema appears first in the lower extremities or in the face, and then the body becomes gradually invaded. General dropsy results from obstruction, and is usually the outcome of cardiac disease.

Local dropsy is characterized by the limitation of the transudation to one serous cavity, or to some circumscribed area of the areolar tissue. The most frequent of all forms of local dropsy is ascites or peritoneal dropsy. This often is associated with cirrhosis of the liver and other diseases. Obstructure of vena porta is responsible for abdominal dropsy in many cases seen in our daily practice.

Starling states that he believes that dropsy is caused by the separate or com-

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bined action of two factors: 1. Increased exudation; 2. Diminished absorption by the lymph channels. The endothelial cells of the vessels, however, take no active part in the production of the exudate, their vital activities being confined to the maintenance of their integrity as a filtering membrane, with properties differing according to the part of the body in which they happen to be situated. The amount and composition of the lymph transuded in any part are determined solely by two factors: 1. The permeability of the vessel wall; 2. By the intracapillary blood-pressure. Flint has performed careful experiments to test whether exudation of lymph was in any way subject to the control of the nervous system, but he concludes that this is never the case, and when as a result of some nervous influence exudation takes place, it is simply due to a rise of capillary pressure, and is therefore only a secondary effect of the interference with the nerve. Even when there is increased transudation it is possible for the normal mechanism to hold this process in check by absorption for some time.

So much for the nature of dropsies. We have thought it supererogation to give anything of symptomatology of a condition which is so common that all practitioners are acquainted with it. Let us now speak of the treatment. As we have already stated, dropsy is never a disease *per se*. It is therefore highly important to study the morbid activities with the greatest care, that we may not fail to estimate he necessities to be met in our treatment.

The general health of these patients is to be brought to the highest point possible, and we must use every possible means to remove the cause of the dropsy.

This is the principle of treatment:

In anasarcin we have a remedy which brings about a cure in many cases of dropsy. The agent exerts an action which is most necessary to a cure of the morbid process. It is now well established that it accomplishes two results, and these will remove many cases of dropsy. It speedily removes the effusion, which is of course gradually accumulating, and which adds to the discouragement and the distress of our patient, and restores the normal equilibrium between the venous and arterial systems. In this way the cause of the dropsy is attacked, and the treatment may be said to be a rational one. We must of course have the coöperation of the patient to the end that he employs the agent for a period of sufficient duration to bring about a return of normal conditions.—New Albany Medical Herald, June, 1904.

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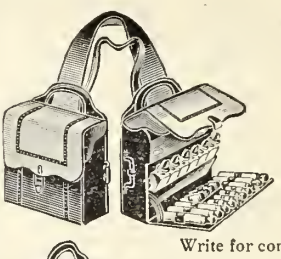

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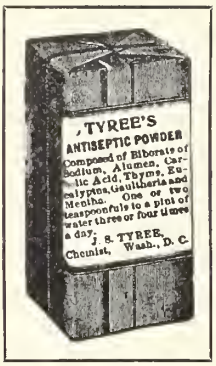
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CHOREA AND ANEMIA.—In the etiology of chorea nothing is noted relative to anemia. It is simply accounted as an accompanying symptom of the condition. Medical literature emphasizes the relation between rheumatism and chorea, with anemia as an important symptom. After observation of several cases I am strongly of opinion, however, that anemia as a causative factor is worthy of investigation.

Anemia of toxic origin presents pathological conditions which favor the production of choreaic affections. It is true that simple anemia is, as a rule, of secondary origin, and, viewed in this light, it may be argued that if chorea arises, it is the result of the primary and not of the secondary conditions—thus agreeing with the admitted etiology. This argument, however, will not satisfactorily explain those cases of chorea which arise remotely from the primary condition, but recently from the secondary effects.

I submit three cases in which symptoms, treatment, and recovery seem to intimate at least a possible relation between anemia and chorea.

Case 1.—A female child of eight years gave a history of typhoid fever eight months prior to my visit. According to the mother's statement the child had made a quick and good recovery, gaining rapidly in weight and exhibiting the energy of her former life. Six months later she became irritable and pale, with pain in her arms and legs, which condition was soon followed by gastric disorders and irregular spasms of the muscles of the face. Simple anemia was in evidence from objective and subjective symptoms alone, but was unquestioned in the light of the results obtained from blood examination—the red blood element being present to the extent of barely 3,000,000 red corpuscles per c. m.

This case was treated with two teaspoonfuls of Pepto-Mangan (Gude) and two drops of Fowler's solution, three times a day. After gastric symptoms had abated somewhat, two raw eggs per day

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were added to the diet. The patient was discharged in five weeks, completely recovered.

Case 2.—A female child of ten years of age; gave history of malaria (a well defined case of intermittent fever) one year previously. The pallid condition of the child induced the mother to solicit my aid. Upon examination I found slight choreaic movements which had escaped the mother's eye, though she did admit that the child "could not sit still very long at a time," and "was constantly working her fingers." The blood examination revealed no plasmodium. The red cells were reduced to 2,800,000 per c. m., with a proportionate decrease of hemoglobin.

Pepto-Mangan (Gude) alone was employed in doses of two drachms in a glass of milk three times a day. The blood examination four weeks later showed red cells present to the amount of 3,900,000 per c. m., at which time I dismissed the case completely recovered.

Case 3.—A female child of thirteen years. Two months before my visit, the mother informed me, the child became peevish and pale, and was reproved at school for her inability to write neatly. She was taken from school, but she rapidly grew worse. Morning nausea, vomiting, headache, and anorexia were her daily companions. I found her with pronounced histrionic spasm with involvement of the upper and lower extremities. Hemic murmurs were plainly apparent, but no endocardial irritation could be determined. The blood count showed reduction in red blood cells to 2,100,000 per c. m. The hemoglobin was reduced to a degree greater than the red cells. A curious feature of the case was the morning nausea. Immediately upon awakening she experienced nausea, which was followed by vomiting. I discovered, however, that this condition was superinduced by odors from the kitchen, and directed that a small sponge, moistened with creosote water, be placed over the nose and mouth before the preparation for breakfast began. The annoying symptom was promptly checked by this simple method.

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The anemia in this case may have been produced by malnutrition, but even this view is mere speculation.

The irritability of the stomach in this case was so pronounced that I did not deem it wise to give nourishment—not to speak of medicine—by the stomach. During the first four days rectal alimentation was employed. A nutritive enema, consisting of four ounces of peptonized milk and two drachms of Pepto-Mangan (Gude), was given every six hours. Small amounts of peptonoids with creosote on ice were given by the stomach. Egg albumin was taken in all the water she drank. After four days the stomach was tested with small amounts of milk and Pepto-Mangan (Gude). Beginning with four ounces of milk and one drachm of Pepto-Mangan (Gude) every four hours the amounts of each were rapidly increased, until after three days the patient was taking eight ounces of milk every two hours and four drachms of Pepto-Mangan (Gude) three times a day. This diet, plus three raw eggs a day, together with the above treatment, was all that was employed for six weeks. The blood examination at this time showed a highly gratifying condition—the red cells being present to the extent of 4,100,000 per c. m. The bloom of youth once more tinted the cheek, and the shrine of St. Vitas lost a visitor.—ROSHIER W. MILLER, M.D., Ph.G., Barton Heights, Va., Lecturer on Nervous and Mental Diseases, and Professor of Theory and Practice of Pharmacy, University College of Medicine, Richmond, Virginia, in the *Virginia Medical Semi-Monthly*, May 13, 1904.

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EVERY doctor has coming under his care from time to time patients who are evidently drawing near that borderland which lies between an ill-adjusted state of mind and body and actual insanity. These people have reached a point where they are not easily amenable to the admonitions of the family or the family physician, and their future is likely to be a clouded one unless relief can be secured at an early date.

Dr. Penn W. Ransom is prepared to make it very pleasant for this class of patients at the Sanitarium, Rockford, Ill. Under his competent guidance the restless, overwrought neurasthenic can be brought under that soothing influence which is an absolutely necessary preliminary to restoration of the functional activities.

Therefore, when it becomes apparent to the anxious family and the keenly interested family physician that home environment and influences are not equal to the situation, the patient can undoubtedly be saved much mental strain and suffering if

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With this lamp night driving is safe and a pleasure.

Send us $3.75 (mention this paper) and we will send you a handsome japanned lamp, expressage paid in U. S. or Canada, and will guarantee it to give entire satisfaction.

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sent to this quiet resort, where the restraint is only just enough to be sufficient for the purpose, and the surroundings free from the depressing influences of an institution primarily adapted for the mentally unfit.

The convenient location of this institution and the delightful surroundings make it especially accessible. The grounds comprise five acres, beautifully laid out, there being in fact every natural advantage to be combined with the special individualized care of each patient.—*Monthly Cyclopedia of Practical Medicine.*

ENTEROCOLITIS AND CHOLERA INFANTUM.—Cleanse the intestinal tract with calomel and a saline or with castor oil. Prescribe a suitable diet easily digested and non-irritating. Irrigate the rectum and colon at suitable intervals with normal salt solution or some mild antiseptic, using for the purpose a soft-rubber catheter or colon tube.

Instead of opiates, which lock up the secretions and thereby favor auto-intoxication, relieve the muscular rigidity and the excruciating pain, which is such a drain upon the vital forces, by the use of Antiphlogistine as hot as can be borne to the entire abdominal walls, and covered with absorbent cotton and a compress. If the patient is not too far gone the effect will be astonishing. The little sufferer, who until now has been tossing in agony and restlessness, with drawn features, will in most cases quickly become quiet; the drawn look will leave the face, and a restful slumber will often supervene and start him upon the road to recovery.

The explanation of this, in part, is not far to seek. The heat and moisture, combined with Antiphlogistine's well known hygroscopic properties, directly soothe the inflamed parts, reflexly contracting the visceral blood-vessels and relieving their engorgement. The tension of the muscular and nervous systems is further relieved by the action of Antiphlogistine through the solar plexus, thus adding to and emphasizing its local effects upon the inflamed intestines.

SOLVES THE PROBLEM OF INFANTILE CONSTIPATION

A combination of well-tried laxatives and gentle purgatives.

Embodies the valuable tonic property of Cascara Sagrada, without its bitter principle.

Does not gripe or derange the digestive system.

Sweet and pleasantly flavored, hence readily taken by infants and young children.

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Within the 40 pages of text of the AGE, not a single line of advertising is ever printed. There are no advertising inserts; no commercial notes of any description whatsoever. We regard each subscription as a contract with the physician to furnish him semi-monthly with 40 pages of the most reliable information that can possibly be collated.

Guarding your rights along these lines as carefully as we do, we beg of you to read the announcements of our advertisers, and favor them with inquiries and requests for samples; and when so doing, please be so kind as to mention having seen the advertisement in the MEDICAL AGE.

To the notes below and on the following pages, also in future issues, we respectfully direct your attention.

Very truly yours,
THE BUSINESS MANAGER,
Box 484, Detroit, Michigan.

OUR subscribers will be interested in knowing that the Pharmaceutical and Chemical displays at the St. Louis Exposition are located in the Palace of Liberal Arts. Wm. R. Warner & Co. have an especially interesting exhibit.

HERE are a few good words for Iodosyl from physicians who stand high in the profession:

"I used Iodosyl Ointment in a case of herpes labialis following an attack of grippe, in which both lips were almost a solid vesicle, and at the end of three days had a complete cure."

"In all cases of nose and ear suppuration where I have formerly used Iodoform, either in powder or gauze, I am now using Iodosyl, with equally good results, and without the annoyance of the disagreeable odor inseparable from the former agent."

"I used Iodosyl Ovoids with gratifying success in the case of an old lady who had severe acute vaginitis due to incontinence of urine while confined to bed. They relieved the discomfort of the patient at once, and speedily effected a cure."

Iodosyl is manufactured by Nelson, Baker & Co., of Detroit.

GYNECOLOGICAL AFFECTIONS.—Dioxogen, as may be imagined, has proved itself a valuable agent in the treatment of those diseases which affect the female organs of generation. Leucorrhea, gonorrhea, vaginitis, and all complaints of an inflammatory or ulcerative nature to which the genital tract of woman is subject, are always relieved and frequently cured by injection of aqueous dilutions of Dioxogen. In cases of acute vaginal gonorrhea more energetic measures are indicated. H. C. Bloom (*Phila. Polyclinic,* Jan. 25, 1896) recommends as a first step thorough washing of the vagina and contiguous parts with a solution of Hydrogen Dioxid, and as the next step the application of silver nitrate in solution (sixty grains to the ounce) over the entire surface. After this has been done the vagina is carefully packed with powdered boric acid, and a small soft wool tampon is placed. In twenty-four hours' time the packing and tampon are taken out, and with them will probably come a cast or exfoliation of the destroyed or infected tissue—if not as a whole, then in large flakes and sufficiently deep to destroy the gonococcus in the papillary layer of the mucosa. The gonorrhea is practically cured, and all that remains to be done is to treat the raw wound which is left as the result of the above treatment. Successful treatment of systemic infection during the puerperal state arising frequently from abrasions or fissures of the cervix uteri is reported by E. J. Ill (*Gynec. and Obstet. Jour.,* Sept., 1900) and by Alexander Duke (*London Lancet,* 1891).

Deslandes (*Annales de Gynecol. et d' Obstetr.,* Jan., 1900) advocates the use of Hydrogen Dioxid for douching in cases of puerperal sepsis. It is employed in 25 per cent of a 3-per-cent solution. The cervix is cleansed by the application to it of a cotton ball dipped in this solution. The fluid should be injected into the uterine cavity till it returns without frothing. He claims for this method very satisfactory results.

Platon (*Bull. de la Soc. Obstet. de Paris,* No. 2) advocates the use of intra-

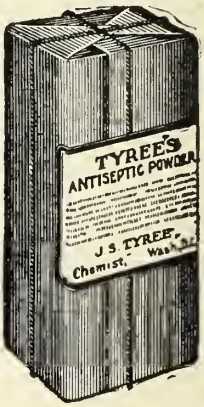
Tyree's Antiseptic Powder

DOCTOR, this is pre-eminently the age of ANTISEPSIS, but the problem is how to secure that in a manner at once the most convenient and harmless, and at the same time accompanied by such an effect upon the tissues as to lead to rapid healing.

In Tyree's Antiseptic Powder you will find a combination so skilfully made that it is destructive to pathogenic bacteria, and yet bland and unirritating to the most delicate mucous membrane, and its application is accompanied by such a mild degree of stimulation and astringency as to promote the rapid healing of the tissues with which it comes in to contact.

It has been used very successfully in Uterine and Vaginal Catarrhs, Gonorrhœa and Gleet, in Dysentery, in Catarrhs of the Nose and Throat, and in Inflammation of the Mouth and Gums. Its great economy and convenience consists in the fact that you add the water yourself—paying for only the Antiseptic Powder. Thousands of physicians are making successful use of it every day. If you will only try it you will be quickly convinced of its great value.

Sample and a beautifully illustrated little booklet representing the rare obstetrical and gynecological specimens of the Army Medical Museum at Washington, mailed free of charge to physicians.



J. S. Tyree, Chemist, Washington, D. C.

uterine injections of Hydrogen Dioxid for uterine hemorrhages. He cites two illustrative cases in which he obtained excellent results. The first was a case of hemorrhagic metritis which had yielded very slowly to treatment and the patient was anxious for a speedy cure, which was obtained by this method. The second, an instance of metrorrhagia at the approach of the menopause, was cured by three applications, although ergot, hot vaginal douches, and tamponing with perchlorid of iron had failed.

Dr. Egbert H. Grandin has cured submammary abscesses by the use of Hydrogen Dioxid after all other remedies had failed, as well as suppurating pelvic hematocele and puerperal endometritis. He said that his experience thus far with Hydrogen Dioxid justified the statement that it was absolutely harmless, and that it was at the same time the most efficient of all the agents at present at our disposal for preventing the ravages which uncontrolled suppuration is capable of producing in such conditions.

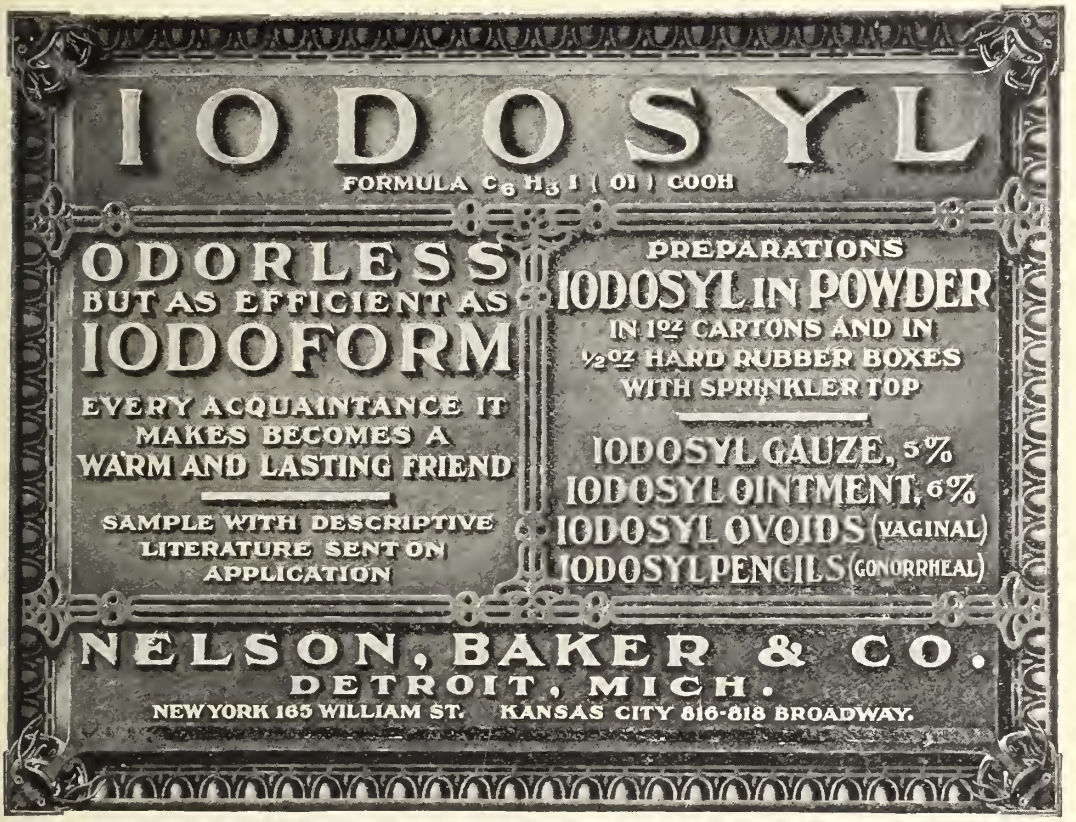
Shoemaker is of the opinion that tubercular and mammary abscesses especially are well treated in this way.

At a meeting of the New York Obstetrical Society (*New York Jour. of Gynecol. and Obstet.*, 1893) the action of Hydrogen Dioxid was discussed, when several very prominent gynecologists expressed their approval of the product in the treatment of affections of the female genital tract.

The Oakland Chemical Co., of 464 W. Broadway, New York, will be glad to send literature on receipt of address.

For therapeutic efficiency in rapid resolution of the products of inflammation, Antiphlogistine is unexcelled.

THE PAIN IN RHEUMATIC GOUT.—Chas. P. Heil, M. D., late professor of anatomy, Indiana College of Medicine, Indianapolis, Ind., in the *Mobile Medical and Surgical Journal*, states: "Many of the cases of rheumatic gout which I have treated were of an obstinate and com-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plicated character, and I must state that I myself have been suffering with an attack in the nature of a very severe inflammatory condition, situated in and over the articulations of my wrist-, knee-, and ankle-joints. The pain which I suffered most of the time was indescribable. I placed myself under the care of a physician, who, upon examination, pronounced me also slightly affected with cardiac trouble. I suffered the most excruciating pain for ten days and nights, without alleviation of my sufferings, nor apparent signs of progress for the better. Knowing full well the efficiency and value of Antikamnia Tablets in these cases, I took two tablets, and about ten minutes after taking them the pain was relieved, I perspired slightly, and then fell into a gentle sleep. The result was simply magical. I slept eight hours in perfect rest, free from all pain. I continued the two tablets every four hours during my convalescence and until complete recovery."

25 Colonial St., St. Johns, Newfoundland,
Jan. 29, 1902.

A. A. Marks, New York:

Dear Sir—I have applied a number of artificial arms to parties residing in Newfoundland; recently I ordered a pair for an unfortunate fisherman, who had one arm amputated below the elbow and the other at the elbow joint.

I find that some of your patrons in Newfoundland wear their artificial arms for ornamental purposes, some wear them for the good effects they produce on the stumps, and others for the utility they derive. I am thoroughly of the opinion that an arm stump must be exercised in order to be kept in a healthy condition.

I have measured a large number of persons in Newfoundland for artificial legs and a number for artificial arms, and consider myself an adept in the work. If you will refer parties to me, I will take their measurements for them at any time.

Respectfully yours,

H. C. Morris.

IN that severe case of periodical back-ache, you will find nothing which will give your patient greater relief or yourself more satisfaction than the prompt application of a

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We would be pleased to send you a sample with which to make a test.

Indicated external medication can nearly always be met with a BELL-CAP-SIC PLASTER

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TYREE'S ANTISEPTIC COMPOUND.—This is a powder which combines strong antiseptic powers with an exceptionally agreeable odor. It is composed of borate of sodium, albumen, carbolic acid, and glycerin, together with the crystallized principles of thyme, eucalyptus, gaultheria, and mentha. It is used (in the proportion of a heaped teaspoonful to a pint of warm water) for local application to wounds and sores, for cleansing discharging mucous membranes, and for disinfecting the upper air-passages in catarrhal states. Although it has this very wide sphere of usefulness, it has been found to have an almost specific influence upon morbid conditions of the genito-urinary tracts. Gonorrhea, leucorrhea, and pruritus due to irritating discharges in women speedily yield to it, and being practically non-poisonous it has great advantages over those substances similarly used which, though of acknowledged efficacy, are nevertheless in the hands of the ignorant by no means free from danger.

Its very agreeable odor will recommend it to many for use as any ordinary domestic antiseptic powder in substitution for the crude preparations which are now generally employed for this purpose. —Reprinted from *Chrystie's Monthly*, London, England.

NEW YORK CITY, Feb. 2, 1902.

A. A. Marks:

DEAR SIR—In regard to the artificial hand you made for me, it is with pleasure that I state it is the best thing I ever did —that is, to buy a hand and to wear it.

Before I placed an order with you I visited other firms, and came to the conclusion that you made the best and most practical hand; the results have justified me in my decision. I am a policeman, and have been for the last eight years.

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A PHYSICIAN OF 30 YEARS' EXPERIENCE SAYS: I HAVE USED **DANIEL'S CONCT. TINCT. PASSIFLORA INCARNATA** TO QUIET NERVOUSNESS, INSOMNIA, AND IN CONVALESCENCE AFTER TYPHOID FEVER. I HAVE ALSO GIVEN IT TO WOMEN SUFFERING FROM ENDOMETRITIS AND IRRITATION FROM OVARIAN TROUBLE. IN CASES OF INSOMNIA DUE TO ALCOHOLIC EXCESS, I FIND IT INDUCES NORMAL SLEEP. WHERE A CALMATIVE IS NEEDED, PASSIFLORA IS EXCELLENT.

SAMPLE SUPPLIED, PHYSICIAN PAYING EXPRESS CHARGES. WRITE FOR LITERATURE

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Methods employed render the morphine addiction the most certainly and readily curable of all the chronic ailments.

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SEE PAGE 22.

There are not two people out of ten thousand that could tell that one of my arms is artificial. I have on several occasions been obliged to use violence in order to hold my man, and instead of using the club I have used the rubber hand. One man told me that he thought he was hit with a cannon ball.

If I could not get another one I would not take $5000 for the one I have.

Respectfully yours,

CHARLES HUNT.

EXPECTATION becomes realization in all cases of localized inflammation where Antiphlogistine is applied.

ABBOTT'S SALINE LAXATIVE.—There has never been a time in all the mutations, advances, and various schools of medicine when the initial necessity of clearing out the bowels before further medication of any ailment was not acknowledged and practiced. It is more so, however, at the present time, when mocrobic mischief cathartic which will leave the bowels semiparalyzed and so prepared for another microbic invasion. What we need is Abbott's Saline Laxative, which clears out the bowels once or twice and done with it for the time. Even a toothache may be stopped by this laxative if it depends upon foul bowels.

The Merz Capsule Co., Detroit, Mich.:

GENTLEMEN—In reply to your request of November 8 in regard to use of your capsules. Have used Merz Santal Comp. in two cases of specific urethritis. One patient was discharged at the end of twenty-eight days, cured. The other patient will be discharged soon. Have been using in connection with your capsules potassii permanganas 1:2000 locally.

Have supply of your capsules at present; shall order direct next time.

Very respectfully yours,

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OFFICE OF
DRS. OLDS & GORDON.

CONVERSE, IND., Feb. 13, 1904.

Frank S. Betz & Co., Chicago, Ill.:

GENTLEMEN—The Static Machine bought of you is a great machine, and while our competitors are monkeying to get theirs to run on a damp day, ours simply electrifies everything around the room and never fails to respond.

Yours very truly,
DRS. OLDS & GORDON.

ONE of the most popular remedies which is particularly adapted for use in Konseals is aspirin. On account of its insolubility in water it cannot be given in a liquid form, and owing to the fact that it must be protected from heat and moisture it is equally unsuitable for administration in pills or tablets. Dr. E. C. Hill, professor of chemistry in the Denver-Gross Medical College, has made a series of careful experiments, reported

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in the *Therapeutic Gazette* of December 15, 1902, which clearly demonstrate that the absorption of aspirin is not retarded when given in capsules; but the use of Konseals, of course, would be far more practical and convenient, and it has been shown that aspirin, when placed in Konseals and unused, remains the same for months, and therefore can be dispensed in this form with complete satisfaction, Konseals being practically the only medicine container of which this can be said.

USES OF DIONIN.—Dr. W. Meitner has found, like others, that Dionin resembles morphine very closely in its sedative, analgesic, and antispasmodic action, being free, however, from some objectionable features of morphine, and in addition possessing a peculiar action on the eye.

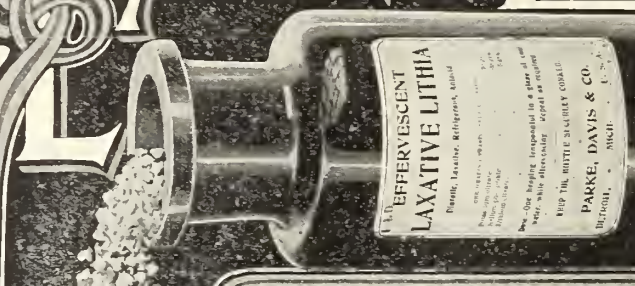
Internally, Dionin may be administered in powders, tablets (half-grain), or in solutions.

Locally, Dionin may be used, as an analgesic in ointment form, as in painful ulcerations.

Suppositories of Dionin are useful in rectal and vaginal affections, accompanied by pain. Excellent effects are seen from Dionin in affections of the respiratory organs, where it soothes the cough and pain, and relieves dyspnea. In these cases it compares very favorably with codeine and morphine, being free from their after-effects. A similarly sedative action is noticeable in gastric and intestinal irritations, like colic gastralgia; and in the more serious affections, such as ulcer and cancer, Dionin relieves the pain and the vomiting better than any other remedy. In combination with astringents like bismuth, etc., Dionin is an efficient and antidiarrheal drug.

Besides these instances of local sedative action Dionin has a general calming effect, making it a serviceable analgesic and hypnotic remedy in suitable cases.—*Allg. med. Central-Ztg.*, 1903, No. 57.

LAXATIVE LITHIA



OUR **Granular Effervescent Laxative Lithia** is not merely a pleasant laxative. By virtue of the Sodium Phosphate which it contains it has a direct action upon the liver, stimulating the secretions of that organ, and so restoring to the intestines the tone which is lacking when the liver fails to do its work. It has, too, another effect—to render the urine alkaline, and to dissolve uric acid and other secretions. Hence it is indicated in rheumatic or gouty conditions, and especially as an occasional precautionary or curative measure where there is a tendency to the formation of gall-stones or of renal or cystic calculi.

SUPERIORITY OF OUR PRODUCT.

Like all of our granular effervescent preparations, our **Effervescent Laxative Lithia** is made from the purest materials. The granules are snowy white, large and firm, and do not crumble in transportation or handling. They do not grow dark or yellow with age or develop a disagreeable odor. Thrown into a glass of water, they sink to the bottom, dissolving quickly, with brisk effervescence, the bubbles of gas passing upward *through the water* and saturating it. Effervescent salts made by old processes *float on the surface*, the gas escaping into the air—result, a flat, insipid solution.

Always specify "Parke, Davis & Co." and get the best.

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BRANCHES: New York, Chicago, St. Louis, Boston, Baltimore, New Orleans, Kansas City, Indianapolis; Minneapolis, Memphis; London, Eng.; Montreal, Que.; Sydney, N.S.W.; St. Petersburg, Russia; Simla, India; Tokio, Japan.

THE PAGES OF
THE MEDICAL AGE.

Within the 40 pages of text of the AGE, not a single line of advertising is ever printed. There are no advertising inserts; no commercial notes of any description whatsoever. We regard each subscription as a contract with the physician to furnish him semi-monthly with 40 pages of the most reliable information that can possibly be collated.

Guarding your rights along these lines as carefully as we do, we beg of you to read the announcements of our advertisers, and favor them with inquiries and requests for samples; and when so doing, please be so kind as to mention having seen the advertisement in the MEDICAL AGE.

To the notes below and on the following pages, also in future issues, we respectfully direct your attention.

Very truly yours,
THE BUSINESS MANAGER,
Box 484, Detroit, Michigan.

HUMOR AND AUTOMOBILES.—That the country editor has no monopoly of humorous correspondence is proved by the following letter recently received by the Olds Motor Works, of Detroit. The letter was neatly typewritten, even to the signature of the writer.

MOBILE ALA., Feb. 12, 1904.

Olds Motor Works, Detroit, Mich.:

DEAR SIRS—I hereby take the liberty of writing your concern in reference to the following matter. Our club in Mobile is going to have a masked character ball, and I intend to take the part of a chaffeur. I would like to have you send me a correct list of the costume that a Chaffeur should wear, also how much would a pair of goggles cost (I mean for the eyes). If you wish you can send me some advertising matter, and I will distribute same for you. Please give this letter your *prompt attention.* Thanking you in advance for your kindness, I remain,

Very truly yours,

———.

Are boots or shoes worn?

ARE YOU GOING EAST OR WEST?—If so, you can save money by traveling on Detroit and Buffalo Steamboat Co.'s new steamers between Detroit and Buffalo. The service is the best on fresh water. Send two cents for folder, map, etc. Address A. A. SCHANTZ, G. P. T. Mgr., Detroit, Mich.

THE MOST ACTIVE AND RELIABLE COMBATANT IN UTERINE DISORDERS.—I have used a number of remedies for the cure of amenorrhea, dysmenorrhea, and kindred ailments to which the female is subject, and have found in Ergoapiol (Smith) the most reliable and active combatant in uterine disorders. After using it in my practice the past two years I find it acts promptly upon the mucous membrane in delayed menstruation, in allaying inflammation, and in dispelling pain. It acts very favorably upon the ovarian tract. A few cases in my own practice are here cited:

Case 1.—Miss T——, aged twenty-two. Never having menstruated, although having full developed organs of puberty for seven years previous; found, upon examination, the uterine organs normal, no imperforate hymen. Had been operated upon for otorrhea two years previous, which resulted in complete deafness. I prescribed Ergoapiol (Smith), two capsules three times a day for ten days, when a scanty menstruation appeared; continued for three months with Ergoapiol (Smith), four days before the menstrual period was due, when normal conditions resulted.

Case 2.—Miss D——, aged twenty-three. Having dysmenhorrhea and menorrhagia at frequent intervals, was placed on Ergoapiol (Smith), giving six capsules daily for five days, when pain ceased; with three months' treatment normal menstruations were established, with no hemorrhages appearing between the periods.

Case 3.—Mrs. H——, aged twenty-three. Was left in a very anemic condition following miscarriage, when amenorrhea followed, and was delayed for two periods. I prescribed Ergoapiol (Smith), one capsule three times a day, when normal menstruation returned, and weak system built up, with no after-results.

Case 4.—Mrs. B——, aged forty-three. Was referred to me having irregular men-

Tyree's Antiseptic Powder

DOCTOR, this is pre-eminently the age of ANTISEPSIS, but the problem is how to secure that in a manner at once the most convenient and harmless, and at the same time accompanied by such an effect upon the tissues as to lead to rapid healing.

In Tyree's Antiseptic Powder you will find a combination so skilfully made that it is destructive to pathogenic bacteria, and yet bland and nnirritating to the most delicate mucous membrane, and its application is accompanied by such a mild degree of stimulation and astringency as to promote the rapid healing of the tissues with which it comes in to contact.

It has been used very successfully in Uterine and Vaginal Catarrhs, Gonorrhœa and Gleet, in Dysentery, in Catarrhs of the Nose and Throat, and in Inflammation of the Mouth and Gums. Its great economy and convenience consists in the fact that you add the water yourself—paying for only the Antiseptic Powder. Thousands of physicians are making successful use of it every day. If you will only try it you will be quickly convinced of its great value.

Sample and a beautifully illustrated little booklet representing the rare obstetrical and gynecological specimens of the Army Medical Museum at Washington, mailed free of charge to physicians.

J. S. Tyree, Chemist, Washington, D. C.

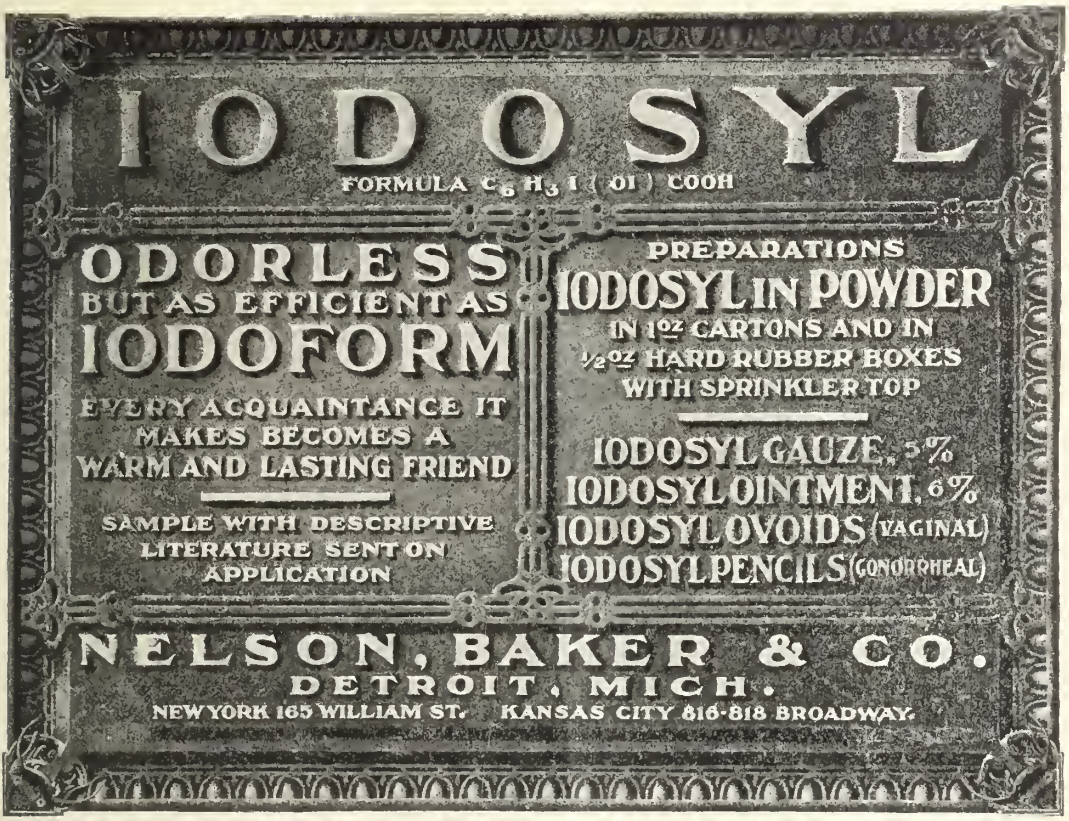
struations two or three times a month. Ovarian pains constantly, profuse and purulent leucorrhea. I had about decided to curette, when the condition of the heart dissuaded me, and resolved to use Ergoapiol (Smith) in large doses, when a profuse hemorrhage for seven days followed, evacuating large blood-clots, relieving the patient to normal condition with no after-effect, and with subsequent treatment was restored to good health.

Case 5.—Miss B——, aged sixteen. Had commenced her menstrual period at the age of twelve years. Was in normal condition for three years, when she was attacked with typhoid fever, having no menstruations for three months. Being in a very anemic condition, heart action was very poor. After prescribing tonics I placed her on Ergoapiol (Smith), in small doses, one capsule three times a day, when in two months the regular periods were established without further complications.

Case 6.—Miss T——. Had normal menstruations since fifteen years of age. Became in a very anemic condition through hard work and poor nourishment, etc., and passed her menstrual period for ten days. Prescribed Ergoapiol (Smith) until ten capsules were taken, when menstruation appeared, but with dysmenorrhea. On following the treatment for three successive months the normal conditions were revived, no further trouble ensuing.—Extract from clinical report by E. Alfred Mallette, M.D., Philadelphia, Pa.

You Need a Rest.—If you are not feeling well, don't call a doctor, but take a lake trip! You return home feeling new life and your brain blown free from cobwebs. Send two cents for folder and map. Address A. A. Schantz, G. P. T. Mgr., Detroit, Mich.

Milk Diet in Chronic Intestinal Catarrh.—An exclusive milk diet should have a trial in every case. Skimmed milk can be taken in larger quantities and with less repulsion, and is therefore to be pre-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FORMULA $C_6H_3I(OI)COOH$
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EVERY ACQUAINTANCE IT MAKES BECOMES A WARM AND LASTING FRIEND
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ferred. The exclusive milk diet can be varied with buttermilk, koumiss, or wine-whey; and fruit juices, as orange juice, lime juice, or tamarind water, please the patient without doing harm. In the case of adults as well as children the milk is made more digestible by diluting it with barley water or rice water, or by adding transformed farinaceous food to milk in the form of Mellin's Food, and other foods of this class.—Pepper's "System of Medicine."

JACKSON, TENN., Nov. 5, 1903.

Frank S. Betz & Co.:

GENTLEMEN — My Static received promptly and in good order. In my opinion your Static Machine is the best manufactured in the United States.

As I wrote you before, I have owned and operated Static Machines of other manufacturers, but yours is in every way superior to them.

Will want more of your goods at an early date. Yours very truly,

P. L. BROUILLETTE, M.D.

CACTINA IN FUNCTIONAL DISEASES OF THE HEART.—After referring to all recognized heart stimulants, Dr. Hatch concludes: The last in the list of cardiac stimulants, but by no means the least, is cactina. This drug is the proximate principle of the Cereus Grandiflora (night-blooming cereus), and belongs to the natural order of the Cactaceæ, a plant indigenous to tropical America. This active principle was most successfully isolated by the pharmaceutical chemist of St. Louis—Frederick W. Sultan—who obtained it from the flowers and stems of the Mexican variety, which yields a greater and more constant quantity than any other species. This drug is non-irritant and can be applied to the conjunctiva in a ten-per-cent solution without producing any noticeable effect. Therapeutic doses cause a rise in the arterial pressure and increase the pulse-rate, whereas toxic doses cause, first, acceleration of the pulse and a rise in arterial pressure that is followed by a drop in the pressure and a diminution in the rate of the pulse.

IN that severe case of periodical back-ache, you will find nothing which will give your patient greater relief or yourself more satisfaction than the prompt application of a

BELL-CAP-SIC PLASTER

over the lumbar regions.

We would be pleased to send you a sample with which to make a test.

Indicated external medication can nearly always be met with a BELL-CAP-SIC PLASTER

J. M. GROSVENOR & CO.

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The pulsations become irregular and spasmodic, and the heart is finally arrested in systole.

A fair conclusion is that the drug produces these effects chiefly by direct stimulation of the intra-cardiac ganglion.

From this we may summarize that the action of the cactina in therapeutic doses is to increase the musculomotor energy of the heart, elevate the arterial tension, with a corresponding increase in the height and force of the pulse wave, and to elevate the general nervous tone by stimulating the motor centers in the cord.

Cactina is indicated then whenever we need a powerful cardiac tonic stimulant.

Its greatest value has been shown in functional disturbances of the heart, such as simple dilatation and cardio-musculoatony, in which there are no organic lesions.

It has a great advantage over digitalis in that it can be administered continuously without producing gastric irritation and without fear from cumulative action. It is of use also in organic diseases of the heart, save in one instance, viz., mitral stenosis, where digitalis is to be preferred because it prolongs the diastolic period, thus giving the ventricle time and power to empty itself.

The dose of cactina with which the best results have been obtained is 1-100 of a grain (in the form of Cactina Pillets), repeated at frequent intervals. The continued use reduces and regulates the pulse by giving strength and tone to the heart's action.

In several cases of functional disturbances of the heart, particularly tobacco heart, in which I have prescribed cactina, I have been able to reduce the pulse-rate within a few hours, and by the withdrawal of the narcotic and continued use of the drug bring the patient to a normal condition.

My experience with cactina has been such that I put more faith in it for functional disturbances than any other remedy that I have tried.—Extracts from an article in the *Medical Examiner and Practitioner* by JOHN L. HATCH, B.S., M.D., New York.

PASSIFLORA

A PHYSICIAN OF 30 YEARS' EXPERIENCE SAYS: I HAVE USED **DANIEL'S CONCT. TINCT. PASSIFLORA INCARNATA** TO QUIET NERVOUSNESS, INSOMNIA, AND IN CONVALESCENCE AFTER TYPHOID FEVER. I HAVE ALSO GIVEN IT TO WOMEN SUFFERING FROM ENDOMETRITIS AND IRRITATION FROM OVARIAN TROUBLE. IN CASES OF INSOMNIA DUE TO ALCOHOLIC EXCESS, I FIND IT INDUCES NORMAL SLEEP. WHERE A CALMATIVE IS NEEDED, PASSIFLORA IS EXCELLENT.

SAMPLE SUPPLIED, PHYSICIAN PAYING EXPRESS CHARGES. WRITE FOR LITERATURE

LABORATORY OF
JNO. B. DANIEL, ATLANTA, GA.

SEXUAL IMPOTENCE IN MALE AND FEMALE

JUST REDUCED FROM $3.00 TO $2.00. THIRD EDITION.

By WM. A. HAMMOND, M.D.

Probably more unhappiness is caused by Sexual Impotence than by any other disease that affects mankind. Dr. Hammond discusses causes, symptoms, and treatment.

WILLIAM M. WARREN, Medical Publisher, P. O. Box 484, Detroit, Mich.

SUCCESS WELL EARNED.—Such of our readers as are users of Ford Motor Cars (and we have it on good authority that physicians are larger purchasers of this machine than any other class of business or professional men) will be interested in the information that the makers, the Ford Motor Company, of Detroit, finds it necessary this year to add largely to its manufacturing capacity in order to take care of the rapidly increasing demand for its cars. The plans for enlargement include a new three-story manufacturing plant, with upwards of eight thousand square feet of floor space, and the acquisition of three and one-fourth acres of the most valuable manufacturing realty in the city of Detroit.

The Ford makers are putting out a good automobile, at a very modest price, and their success is well earned. They pride themselves on the strength and durability of their car—and these are points which appeal with striking force to the physician, who needs a machine which will stand by him on any road and in all varieties of weather.

NO MATTER how disagreeable a drug to be administered may be, it may be given in Konseals without any apparent taste. Indeed, anything, however large the dose, may be enclosed in the Konseals and taken in the mouth pleasantly, easily, and quickly swallowed. The Konseals are grateful to the stomach, no matter how disturbed or irritated the organ may be, their effect being soothing and calming upon the irritated mucous membranes, owing, we believe, to the superior rice flour from which they are made and the method of manufacture. The Konseals are promptly digested, and the medicines which they contain are aided in their digestion by Konseals, for they favor the free gastric secretion and they become quickly absorbed. We cannot emphasize in our minds too clearly the thought that nothing so favors digestion as a palate which has not been displeased, and a di-

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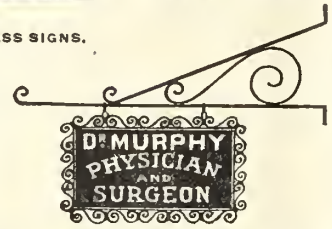

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THE PARK VIEW SANATORIUM
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For Insane, Drug and Alcohol Cases.

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For all forms of Chronic Diseases, Crippled and Deformities.

Send for Descriptive Housebook.

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EMPLOYMENT,

PROFESSIONAL AND BUSINESS CHANCES.

FOR SALE.—$2000 practice in Central Illinois; collections 97 per cent; progressive town of 600; rich farming country; one other doctor, inexperienced competition after June 1; nearest outside competition 7 miles. Reason for selling, going to city; an excellent opening. About $700 for office and contents. Address C. B., MEDICAL AGE.

gestive tract which has not been upset by disagreeable impressions. Konseals are in such a form that they are quickly dispensed, the medicines are easily administered through them and rendered absolutely tasteless. Being so easily, gracefully swallowed, smoothness, pliability, digestibility and absorbability being their strong points, we are safe in declaring the administration of medicine through the medium of Konseals as "the quintescence," the crystalized expression of ever rebellious the stomach against other methods.

Explicit instructions should always be given by the physician to dip the sealed Konseal in water. It should then be placed well back on the tongue, when it will readily collapse and with a swallow of any fluid, preferably water, or even without any, the pressure of the tongue will cause the mass to assume the same form as would a similar portion of food dainty, beautiful pharmacy, and the concensus of opinion of all physicians who have tried them is that no remedy given in this way will be refused by patients, how-well masticated and mixed with the saliva, when it is pleasantly and easily swallowed.

Physicians should see to it that their druggist is properly provided with the Konseal Apparatus for the filling and sealing of Konseals, which is furnished by the manufacturers, Messrs. J. M. Grosvenor & Company, Boston. The fact that the senior of this firm, Dr. Grosvenor, is a graduate from a regular medical college, and has come down a long line of doctors for a half-dozen generations, favors the thought that the firm knows well the needs of doctors along pharmaceutical lines.

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A QUIET, DELIGHTFUL HOME, UNDER THE PERSONAL CARE AND DIRECTION OF PENN W. RANSOM, M.D.

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With this lamp night driving is safe and a pleasure.

Send us $3.75 (mention this paper) and we will send you a handsome japanned lamp, expressage paid in U. S. or Canada, and will guarantee it to give entire satisfaction.

You can return the lamp at any time within 30 days of purchase if you are not satisfied and get your money back without delay or trouble. Send for book.

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Methods employed render the morphine addiction the most certainly and readily curable of all the chronic ailments.

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Compiled by ELI H. LONG, M.D.

$1.20 REDUCED FROM $2.00.

E. G. SWIFT, Medical Publisher, P. O. Box 484, Detroit, Mich.

DANGER OF CORROSIVE SUBLIMATE IN VAGINAL DOUCHE.—It is strange that at the present time many medical men are found who continue to use corrosive solution for the purposes of postpartum douching in spite of the clear demonstrations that have been made of its unsuitability and of its dangers, and in spite of the introduction of many safe and efficient substitutes. The use of this dangerous poison for postpartum douching is not alone confined to general practitioners, but it is used and recommended by many competent specialists. A case is recorded in an American contemporary in which a patient, aged thirty-three, who had miscarried at the fourth month, was given a single vaginal douche consisting of a quart of 1 in 1000 corrosive sublimate solution. The next day she exhibited all the characteristic symptoms of sublimate poisoning—gingivitis, salivation and diarrhea. The symptoms became rapidly worse, and she died a fortnight later. Of course, an antiseptic cannot be condemned because it is carelessly used with fatal consequences in a single case, and if corrosive sublimate had anything to very strongly recommend it it would be foolish to do so, but what are its recommendations? It destroys metal instruments; it is a most dangerous lotion to leave about the house; it is decomposed and rendered useless in the presence of much albumin; it roughens the hands of the operator and constringes the mucous membrane of the vagina and vulva, and so tends to encourage the occurrence of lacerations of these parts; and, as the case to which we have called attention shows, and as many other reported cases show, its use is by no means free from danger. The obstetrician who uses it himself is courageous, but he who recommends it for general use to others—nurses or students—is foolhardy.—*Medical Press and Circular,* London; reprint from *Cincinnati Lancet-Clinic,* Sept. 12, 1903.

SYRUP TRIFOLIUM COMPOUND

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Used also as a vehicle for calcium iodide, calcium sulphide, mercuric iodide and other inorganic alteratives, or in combination with Solution Iron Peptonate and Manganese, when indicated.

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To the notes below and on the following pages, also in future issues, we respectfully direct your attention.

Very truly yours,
THE BUSINESS MANAGER,
Box 484, Detroit, Michigan.

A VALUABLE ACCESSORY.—The time when the old school physician managed to get along with a lancet, Dover's powder, and some rhubarb and calomel has long since passed; and the progressive and successful physician of to-day is the one who takes advantage of the various inventions offered him for the treatment of many conditions formerly little understood.

The writer knows a gentleman who during convalescence from a paralytic stroke suffered continually cerebral and spinal irritation, and although under the care of one of the ablest physicians in his city was not progressing satisfactorily. One day the patient requested his nurse to brush his hair, and when the brush was passed over the occipital region he felt an agreeable and pleasant sensation, and asked the nurse to pass the brush vigorously up and down the spine. The result was most satisfactory; the extreme nervousness from which he was suffering at the time disappeared as if by magic, and he improved rapidly from the constant use of the brush. But no brush then on the market appeared to be just the right thing; so after convalescence was well established he proceeded to experiment with various forms of brushes until he produced an entirely new instrument, which has been put on the market under the trade name "The Spinal Brush."

Of course we would not claim for the Spinal Brush that there is anything miraculous in its use, but it gives us a most important and valuable accessory in our practice for the treatment of conditions so often met with in our daily routine of practice.

The office of the Spinal Brush Co. is in the St. James Building, 1135 Broadway, New York, and our readers can secure a sample of the Spinal Brush post-paid by sending $1.00 to the company.

In cases of "nervousness," sleeplessness, slow convalescence from tedious illness, etc., it will be found of value. It promotes the circulation of the blood, and produces a feeling of exuberance, contentment, and elasticity of body and mind which is very satisfactory to the patient and gratifying to the medical attendant.

DANIEL'S Conct. Tinct. Passiflora Incarnata calms and rejuvenates the whole nervous system. The most satisfactory results have been obtained from it in women's diseases, especially for the nervousness preceding and during childbirth. It allays irritation and all tendency toward hysteria, gives refreshing rest during the period of recuperation, and quickly restores the accustomed strength. Passiflora exerts a sedative influence upon the mucous surfaces of the entire urinary tract. As one physician expressed it, "Give Daniel's Passiflora regularly, as indicated, and leave the rest to Nature." This is the logical course to pursue, because Passiflora is Nature's remedy—prepared from the May-pop—and contains all the sedative and curative properties of this medicine-fruit.

AN ACKNOWLEDGMENT.—Through the kind offices of members of the profession, and of my former patients, I have, during the past four years, been given the opportunity of freeing from drug slavery more than five hundred of earth's most

Tyree's Antiseptic Powder

DOCTOR, this is pre-eminently the age of ANTISEPSIS, but the problem is how to secure that in a manner at once the most convenient and harmless, and at the same time accompanied by such an effect upon the tissues as to lead to rapid healing.

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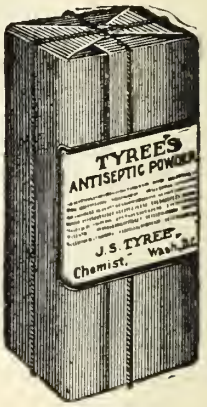
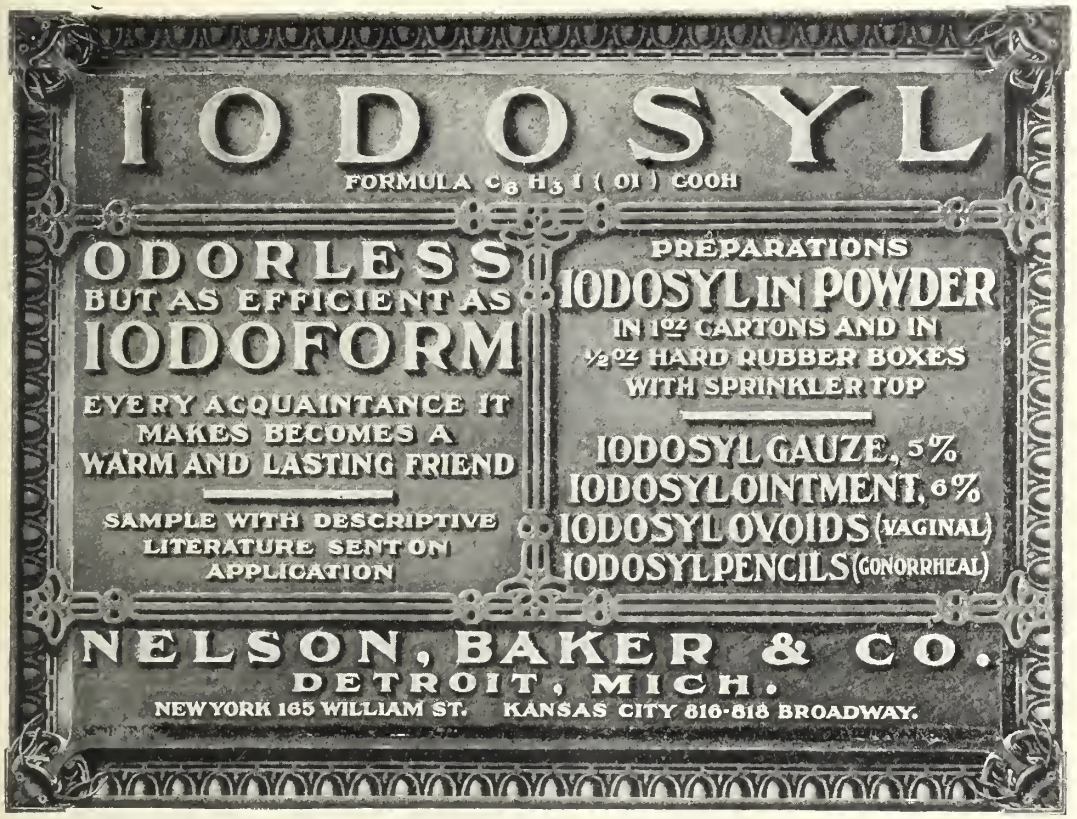


J. S. Tyree, Chemist, Washington, D. C.

wretched inhabitants. For this opportunity I am profoundly grateful. Many of these, who were almost total mental and physical wrecks, are now occupying useful stations in life. Even if I should not be permitted to do anything more, I should feel that a great work has been accomplished, but this number is as nothing when compared with the great army of drug users. It is my ambition to release from drug slavery many hundreds more of these unfortunate and neglected ones, and thus give them another opportunity in life. Doctor, will you not lend a helping hand, by bringing to the knowledge of the drug users in your clientele the fact that they can be cured of their addictions by means that are safe, comparatively free from suffering, and that have the indorsement of all professional men who have taken the trouble to investigate the matter? From the results obtained in this work in the past I feel justified in saying that you could not do a greater kindness to them or to their families. Will you not take enough interest in them to bring the matter to their attention and send them for treatment? Remember that an institution of this kind, conducted according to our "Principles of Ethics," is entirely dependent upon the kind offices of the profession for support. Will you contribute your influence to the support of a "regular" institution, or allow these unfortunate ones in your clientele to continue to be imposed upon by the "gold" and other "fake cure concerns," as they have been in the past? I feel confident that to bring the matter to your attention is all that is needed to secure your hearty support.

You may depend upon any patients you send being treated with the utmost kindness and fairness, and, if at all fit for treatment, upon their being sent home free from their addictions and independent of all drugs.

Assuring you of my high appreciation of any interest you may take in the matter, I am, fraternally yours, GEO. E. PETTEY, M.D., 958 Davie Ave., Memphis, Tenn.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REMARKS ON GLYCO-THYMOLINE.—For many years past this preparation has been one of my mainstays in diseases of the mucous membranes, and it has held its place despite the trials of many other agents warranted to supplant it by the advocates who decried Glyco-Thymoline when I spoke of its virtues. Space is now getting too valuable to waste with long detailed descriptions of separate cases, and anyhow I never did write in that manner —I think general remarks about agents is the better way, and we need this more than stories of symptoms and temperatures, with daily alterations. No class of maladies is more troublesome than disorders of the mucous membranes, and none more difficult to eradicate thoroughly, and we have been put to our wit's end many times for remedial agents in such cases. The local treatment of catarrhs is frequently disappointing, and none more so than that prevalent one—post-nasal catarrh. Unless we can get an alterative condition established little good is done, and nothing has been of greater service to me than Glyco-Thymoline, locally and internally, in several hundreds of long-standing and severe cases of this intractable and common affliction. I have come to regard this preparation as a standard and almost routine remedy; I seldom care for a post-nasal trouble without prescribing it at the onset, and if I don't it is not long before it comes into use. It is just alkaline enough, just so as to the dialysis (the action locally with exactly the right amount of fluid excretion through the diseased membrane), just enough astringent without drying the parts, and just the right thing in the direct line of reparative work; it sets up tissue-building soon after the membrane gets somewhere near its right shape. Many things are employed in catarrh, but I firmly believe that if I was confined to one agent only, that would be Glyco-Thymoline. For years I

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used the so-called antiseptic tablets of boric acid, and glycerin, etc., and with good results, but for a long time past this is thrown aside, and the Glyco-Thymoline takes its place. I use it in about half strength with a Bermingham douche, and from twice to four times daily. With this, in bad cases, I give it internally, adding to it, or giving separately, mercuric bichloride, and if done separately the menstruum is compound syrup of stillingia. In presumed syphilitic persons I always do this.

In gastritis, chronic enteritis, vaginitis, gonorrhea, and in recurring attacks of what too many physicians deem appendicitis, I use this agent freely, and always with good results. As a local application to foul ulcers and especially to hemorrhoids I think this preparation is very good. In the nasty leg ulcers which now and then defy all remedies Glyco-Thymoline does wonders—it can't do harm any time, and I am almost persuaded to give it in all instances. In bronchitis and asthma it is fine; in spasmodic croup it fills the bill nicely; it does well in venereal disorders locally; and in balanitis it stops the trouble at once.—W. R. D. BLACKWOOD, M.D., Philadelphia, in *Medical Summary,* December, 1903.

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FIELD NOTES ON CALCIDIN.—One night some time since I was called to the child of Mr. R——, but as I was sick I could not respond to the call. Next morning I heard that the child would probably die. During the day Mr. R—— desired me to meet Dr. C——, the attendant, at his residence; said his child was getting worse. It was a boy fourteen months old, exceedingly restless, temperature 102° F., pulse 120, respiration slower than at first and really abdominal. There were paroxysms of more marked dyspnea, when the child would throw itself from one side of the bed to the other, clutch at its throat, reach its arms to its nurse for relief, eyes wild and facies anxious, fingers and prolabia cyanotic, indeed all the symptoms intensified. The cough was hoarse and harsh, the voice almost suppressed. I heartily concurred in the diagnosis of true membranous croup—a typical case. Now was my time; so I immediately suggested the following formula: Iodized lime gr. x, boiling water four ounces. Direct: Teaspoonful every ten minutes until relief begins, then every half-hour or hour until fully relieved, after that every two or three hours until convalescent.

It was astonishing to behold the prompt and steady alleviation of all the distress-

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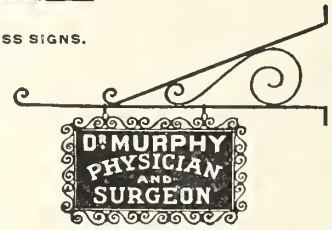

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ing conditions of the case. The effect for good was simply almost magical. Very soon the cough became looser, the breathing less difficult, the whole system softened; the color became better; the child dozed. It was not necessary to give an emetic to throw off the membrane. In less than two hours particles of the membrane began to be detached, and in less than twenty-four hours the whole of it was exfoliated. I fancied that I could see the cyanosis disappear and the rich tinge of pure blood take its proper place.

I gave nothing besides the calcium iodized, for I could not see that anything else was needed.

The patient made an uneventful recovery, and everybody believes that "Calcidin" lime is deserving of all praise. I myself certainly believe with all my heart that it has in this case assuredly won a most signal triumph in the cure of this most desperate malady.

Brethren of the Clinic household, let me urge you to make a trial of this superb remedy the very first opportunity. Send for the drug at once. Suddenly you will be called. Be prepared. You cannot refuse the benefit of such a blessing to your patrons. You will be criminally negligent if you fail to be fully equipped for the awful battle. Possibly the life of your own precious child may be assailed. Would you spare any effort to save it?—DR. Z. L. S., ——, Missouri.

UROTROPIN AND TYPHOID BACILLURIA.—In a paper read at the sixty-ninth annual meeting of the British Medical Association, Section of State Medicine, held at Cheltenham, July 30, A. C. Houston, M.B., D.Sc., in a paper on "Enteric Fever;

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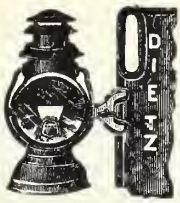

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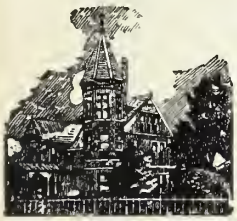

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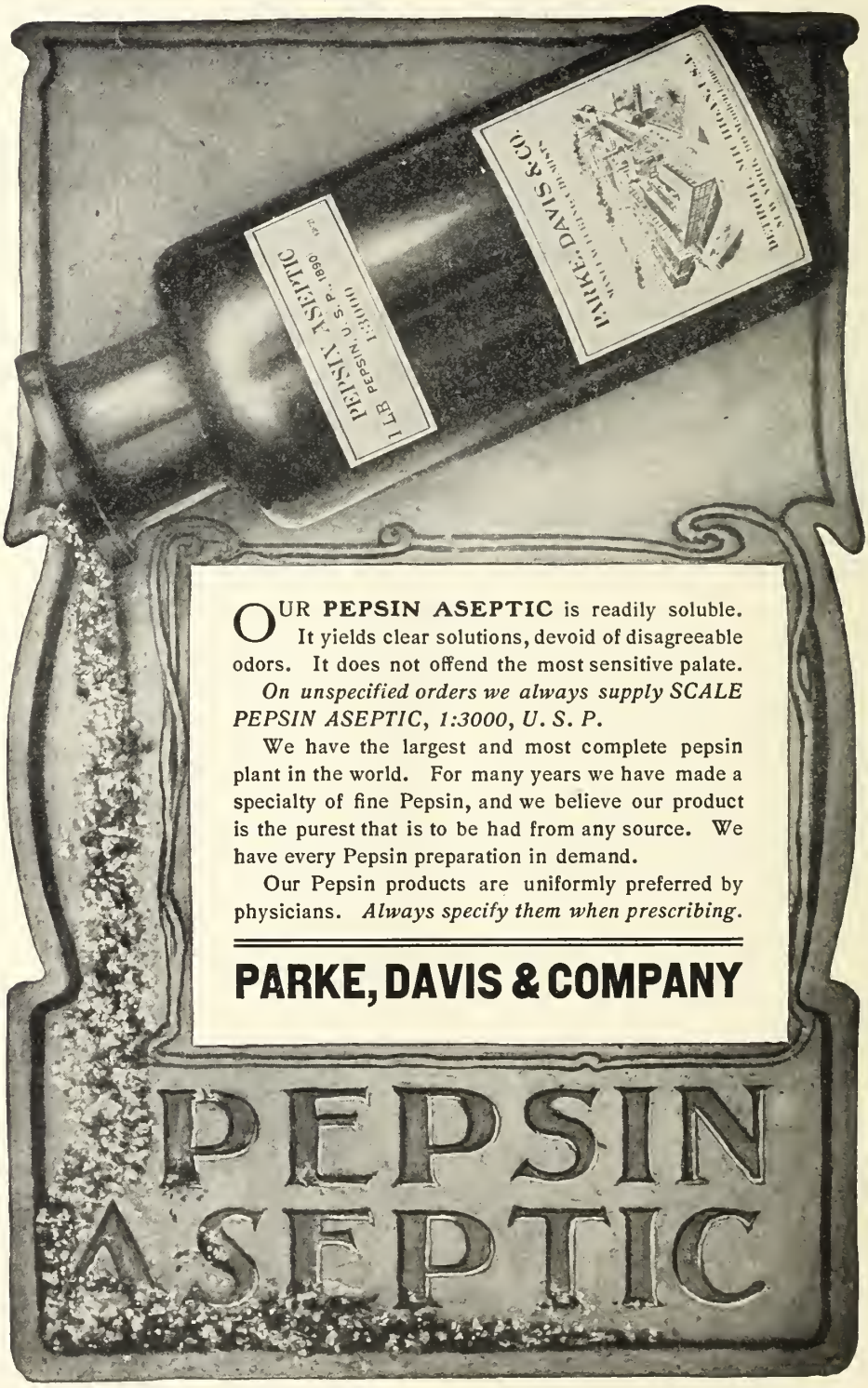
It has been clearly demonstrated by Richardson and Horton-Smith that Urotropin is an almost specific remedy in cases of typhoid bacilluria. Dr. Horton-Smith has strongly advocated its use throughout the whole course of the disease and for some weeks afterward. When it is remembered that every fourth case may present this serious complication, that every drop of such urine may contain not only thousands, but even millions, of typhoid bacilli, and that soiling of the linen with urine is impossible to avoid, the extreme importance of the subject will be readily admitted. In nearly all cases Urotropin may be given in 30-grain doses daily for months without any ill effects, and without prejudice to other medicines and the usual treatment of the disease. It is true that in a few cases hematuria and albuminuria have been caused by its use, but on ceasing the administration of the drug these symptoms rapidly disappeared. Moreover, all such cases would be under medical observation and any ill effects noted at once. Indeed, it appears that the hematuria and albuminuria are preceded by symptoms (discomfort and pain during micturition) which the patient will be first to appreciate.

It needs to be remembered that direct spread of infection from the sick to the healthy is no idle myth, but a dangerous fact. Moreover, the potentialities for evil of a typhoid fever convalescent suffering from typhoid bacilluria are so great as to be almost inconceivable. On public health grounds I would urge in the strongest manner possible that this valuable remedy should be administered in all cases of enteric fever. A fresh impetus has been given to the matter by a recent article entitled "Urine in Convalescence from Typhoid Fever" (*British Medical Journal,* July 13, 1901) coming from so distinguished a physician as Dr. T. Clifford Allbutt.—*British Medical Journal,* Aug. 17, 1901.



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AN attractive and interesting monograph on Dioxogen, descriptive of its physical and chemical properties, therapeutic action and uses in medicine, surgery, dentistry, and hygiene, has been issued by the Oakland Chemical Co. The chemical compound commonly known as Peroxide of Hydrogen, also as Dioxid or Binoxid of Hydrogen, is formed by the reaction between Barium Dioxid and certain mineral acids. It has the formula H_2O_2 and may be described as water combined with an additional atom of oxygen, this peculiarity constituting the source of its medicinal value. The most important, indeed an absolutely essential, point in the preparation of this solution is that it is perfectly pure. Many of the instances in which the solution has not had the good effect anticipated might undoubtedly be traced to the use of an impure product. If, however, care is taken to obtain a solution whose purity is beyond suspicion, then the results from its administration in cases where its use is indicated cannot but be satisfactory and are frequently brilliant.

The solution of H_2O_2 as manufactured by the Oakland Chemical Company, and formerly known as Hydrogen Dioxid 3-per-cent solution, is now termed Dioxogen, and throughout this monograph—except in those instances where direct quotations are made—will be referred to by that name. The change of title was deemed necessary in order to protect physicians against inferior solutions, and also for the purpose of retaining the well-earned reputation which the Oakland Hydrogen Dioxid had secured for itself.

Richardson, the introducer of Hydrogen Dioxid, summed up its good qualities in a paper read before the Medical Society of London as follows: "It is well to recall the important fact that the remedy (*i.e.*, Hydrogen Dioxid) we have had before us has about it the peculiarity that it is a purely natural remedy, that it is not toxic, and that with the exception of the danger of producing by it gaseous accumulation in the blood, under some circumstances of its use—a danger which admits of being avoided—it is free of all risk. In its remedial application, too, there is no complexity as to its *modus operandi*. In every instance that which it effects is oxidation; for asphyxia it is oxidation; for spasm it is oxidation; for breaking up pus and exudation it is oxidation; for destroying infectious and fetid organic secretions it is oxidation; for producing eliminative action it is oxidation."

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It has been used very successfully in Uterine and Vaginal Catarrhs, Gonorrhœa and Gleet, in Dysentery, in Catarrhs of the Nose and Throat, and in Inflammation of the Mouth and Gums. Its great economy and convenience consists in the fact that you add the water yourself—paying for only the Antiseptic Powder. Thousands of physicians are making successful use of it every day. If you will only try it you will be quickly convinced of its great value.

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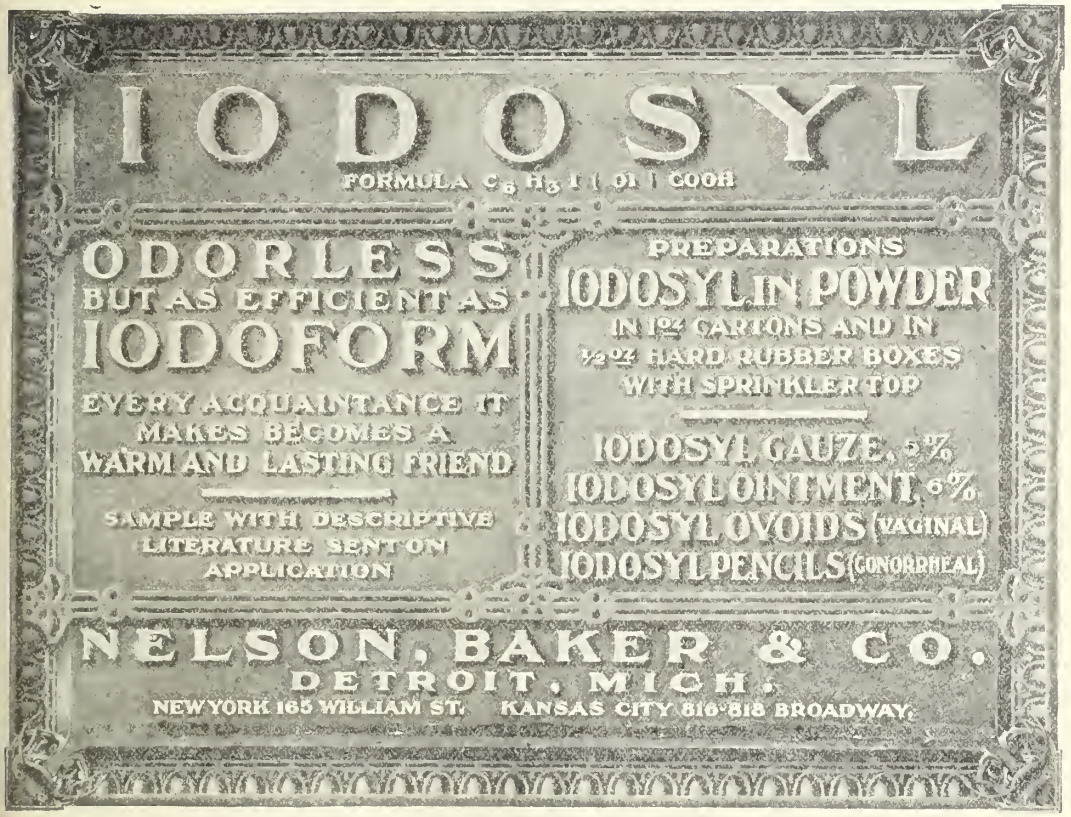
SAFETY IN SOAP.—Included in the detail that makes up the technique for the best results both in facilitating a cure and preventing complications, there is nothing more important than cleansing the field. This applies not only in surgery, but also to every affection of the skin and the mucocutaneous orifices and cavities. Wash away the germs, get rid of the nests of bacteria and the culture-laden secretions, dispense with irritating applications and appliances, and the cure is started and accomplished with the graceful ease that the consciousness of having done the right thing invariably gives. Resinol Soap and hot or warm water not only cleanses the skin and exposed sores, but is also invaluable as a wash or injection to cleanse and correct the secretions of mucous-lined cavities. For irrigating the vagina it will be found superior to the many antiseptic powders and stringent washes now in vogue. For incrustations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Prevention of Cystitis.—At a stated meeting of the New York Academy of Medicine, Section of Obstetrics and Gynecology, which took place on December 26, 1901, Dr. H. Lilienthal said with reference to the remarks made by Dr. Boldt on catheterization in certain cases that he had been experimenting with various methods with a view to preventing cystitis in both men and women. Instead of waiting for the bladder to become dis-

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tended in cases requiring catheterization he had had the catheter passed as often as every three hours. This method alone, by preventing stagnation of urine, often proved sufficient to cure a case of cystitis without resort to washing out of the bladder. In addition to this, he had also made use of prophylactic doses of certain urinary antiseptics, especially Urotropin, giving usually four grains twice daily. Owing to faulty technique or the carelessness of the nurses, this means of prophylaxis seemed desirable. He had seen no case of severe cystitis since adopting this plan.—*Medical Record,* Jan. 11, 1902.

Professor C. Posner writes concerning "Cathether Fever" in *Die Deutsche Klinik,* vol. x, p. 45, as follows:

"Among the internal antiseptics quinine has for a long time practically occupied the first position.

"A certain prophylactic action undoubtedly appertains to the formalin derivatives, of which Urotropin alone has become of practical importance. It is very generally the custom, and with propriety, just as we conclude lengthy local procedures with a silver irrigation, to administer Urotropin from the beginning. For example its protective influence is brilliant in cases of vesical paresis from central causes, as Ebstein has recently shown. In these all the conditions favorable to infection are present; and, in point of fact, as soon as catheter treatment becomes necessary, for any length of time, it is very difficult to avoid the setting up of a cystitis with all its evil consequences. Here the Urotropin treatment is very efficacious. If infection has already occurred, this entirely innocuous remedy is still to be recommended. It will at all events diminish the number of germs present in the bladder, and hinder them in their development."

In a paper on "Lesions of the Bladder During Abdominal and Vaginal Hysterectomy," read before the Suffolk District Medical Society, Section of Obstetrics and Diseases of Women, April 24, 1901, Dr. Chas. G. Cumston, of Boston, said:

PASSIFLORA

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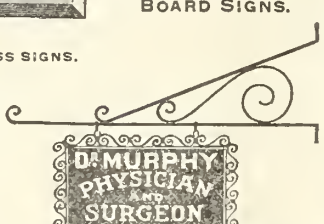

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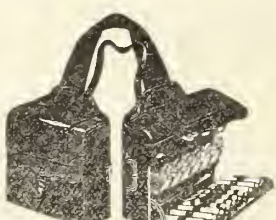

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VINCENNES, IND., Feb. 26, 1904.

THE COUGH SEQUELA OF LA GRIPPE.—Dr. John McCarty, of Briggs, Texas (*Louisville Medical College*), in giving his personal experience with this condition writes as follows: "Ten years ago I had la grippe severely, and every winter since my cough has been almost intolerable. During January, 1902, I received a sample of Antikamnia and Heroin Tablets and began taking them for my cough which had distressed me all winter, and as they gave me prompt relief I ordered an ounce box, which I have since taken with continued good results. Last fall I again ordered a supply of Antikamnia and Heroin Tablets, and I have taken them regularly all winter, and have coughed but very little. I take one tablet every three or four hours, and they not only stop the cough, but make expectoration easy and satisfactory."

GEO. G. VAN SCHAICK, M.D., reports the following case (*New York Medical Journal*):

B. L——, aged eight, an inmate of the asylum, was taken on January 26, 1900, with what appeared to be a severe attack of acute rheumatism, the right shoulder and the head of the left tibia being red and swollen. Salicylates showed no im-

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provement on the next day, and acute osteomyelitis was diagnosticated. The child's mother could not then be found, in order to consent to an operation, and on the 28th, as the tissues over the left upper half of the tibia were red and exquisitely painful, with slight fluctuation, one small incision was made down to the bone, giving issue to some sanious pus, with much bleeding. I did not feel justified in proceeding further without the mother's consent. Pressure stopped the bleeding, which, however, recurred furiously during the night. No vessel could be found to be at fault, and strong pressure, with an elevated position of the limb, had to be relied on. It was only then remembered that the child had, two years previously, nearly bled to death after the extraction of a tooth. It was evident that the child had hemophilia. The state of affairs, with repeated refusals on the part of the mother, prevented any further operative interference to reach the medullary canal. The child was placed on the use of Pepto-Mangan (Gude), which, notwithstanding the septic process still going on, raised the estimation of hemoglobin from thirty-two per cent the day after the hemorrhage to forty-five per cent the next week. The wound has since continued to suppurate, showing continuous slight rises of temperature, and the medullary cavity has opened spontaneously and is draining through the wound. The child seems to do much better than might have been expected during the course of such a prolonged sepsis, and continues the use of Pepto-Mangan (Gude).

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In cases of psoriasis, in addition to the above local treatment the patient must take two teaspoonfuls of Glycozone diluted in a wineglassful of water immediately after each meal, so as to subdue the stomach disturbance which always accompanies this disease.

Herpes zoster and ringworm heal rapidly under the same above treatment with Hydrozone and Glycozone, and the patient is immediately relieved from the itching which is always so troublesome.

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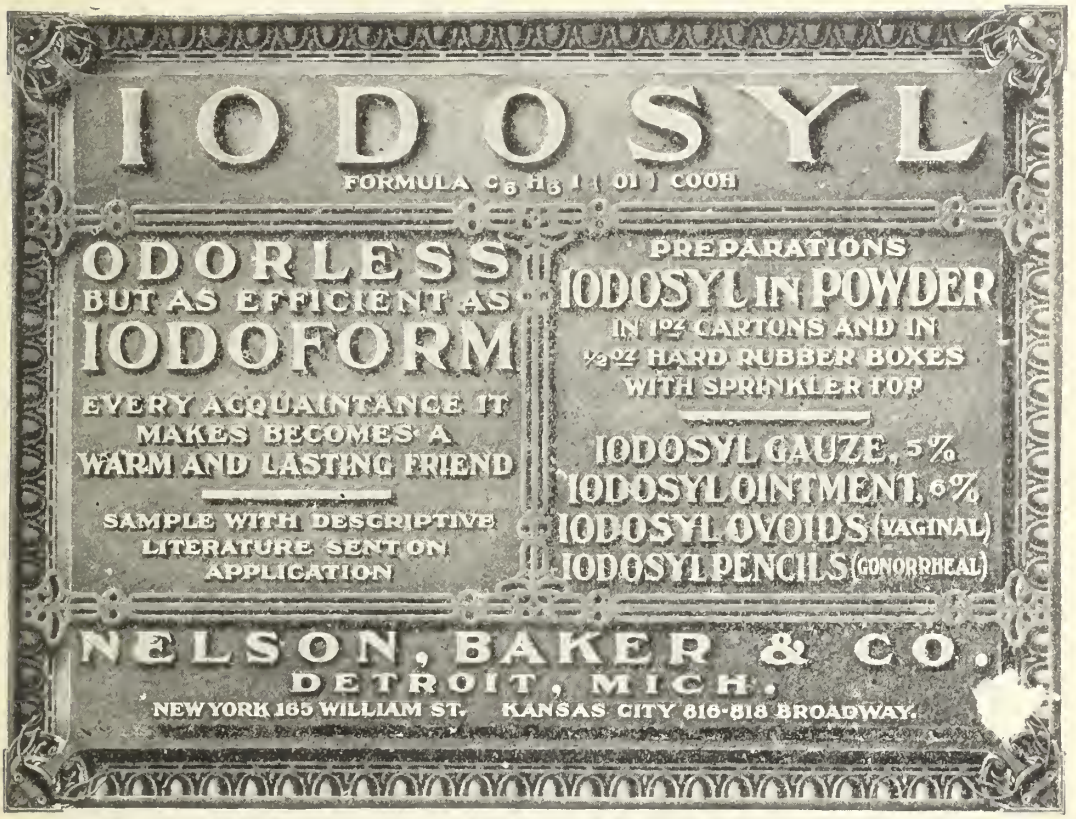
RECENT CLINICAL REPORTS ON THE ROBERTS-HAWLEY LYMPH-COMPOUND.—Epilepsy: Report of Dr. Willis P. King, Kansas City, Mo. Mr. X——, aged thirty-nine, farmer. When six years of age had a fall, which was followed by unconsciousness. Twelve years later experienced his first epileptic seizure. Seizures had increased in frequency and severity until about five months ago, when patient presented himself for treatment. He was having his paroxysms every other day. Was extremely despondent and had suicidal intentions. Began the use of the R. H. Lymph-Compound in 11-drop doses twice daily, rapidly increasing dosage to 14 drops. Patient had no seizures from the third to the tenth day of treatment. The dose of Lymph-Compound was then reduced to 8 drops twice daily, and gradually increased to 10 drops, this dosage being maintained for eighty-six days. Patient has had no seizure since tenth day of treatment. Over three months have now elapsed since treatment was discontinued, and the patient is apparently well.

Pulmonary tuberculosis (Dr. W. P. King). Miss F——, aged twenty-seven.



school-teacher. Patient presented herself for treatment in the summer of 1902. Was pale, emaciated, and weak. Coughed persistently; had P.M. temperature and exhausting night sweats. Physical examination revealed cavity in left apex, together with extensive infiltration of left lung. Apex of right lung was also infiltrated. After three months' use of the Lymph-Compound (which was administered by Dr. O. C. Sheely, Independence, Mo.) all symptoms of the disease were very much benefited. Patient had gained weight, was coughing very little except in the morning on arising. Temperature had been reduced to normal and number of tubercle bacilli in sputum greatly reduced. Was less dyspneic, less anemic, and had gained about 15 pounds in weight. Physical examination revealed a complete cicatrization of the cavity, and the infiltration of the lung had nearly disappeared.

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TREATMENT OF GONORRHEAL URETHRITIS AND CYSTITIS.—Schussler directs attention to the far-reaching and unfortunate results and the casual relation of

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gonorrhea to many gynecologic diseases. The advance in therapeutic measures has not been so satisfactory as in many other lines, and so far nothing that can be regarded as a specific has been found. The principles of diagnosis and treatment have been improved upon, however, and some features added that are worth more than passing consideration. He points out that the diagnosis of gonorrhea by a mere examination of the pus microscopically is not sufficient, and agrees with Lydston and Wolbarst that such examination may be misleading, particularly by making a "smear" on a cover-glass by pressing the glass against the meatus. He thinks a sterilized platinum wire is best for handling the pus. Care in diagnosis is made more important when it is considered that streptococci may invade the urethra and cause pathologic conditions, and by the assertion of Chute that gonorrhea may exist, with its manifold complications, without the slightest urethral discharge.

Local treatment of gonorrheal urethritis has been unsatisfactory, and there seems to be a reversion to internal medication. The balsams were responsible for gastritis and sometimes nephritis, and it is hardly to be expected that these nauseous and noxious drugs will ever become popular again. The author has used salol and boric acid to bring about an antiseptic condition of the urine, and salol alone, and these seemed to give practical benefit in the earlier stages of the disease. The internal administration of medicaments to produce an antiseptic urine seems to be a very logical way of solving the problem of gonorrheal treatment, and in Cystogen we seem to have the factor which solves the problem by releasing formaldehyde and impregnating the urine with it. This makes the urine quite antiseptic, prevents the formation of pus, inhibits the action of gonococci or destroys them, prevents ammoniacal decomposition, and is non-irritating to the inflamed mucous membrane. In the treatment of chronic gonorrhea he uses weak solutions of permanganate of potash as an injection, and if the bladder is involved, washing this out with solu-

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tion of boric acid, with deep injections of nitrate of silver. In subacute cases with irritation of the urethra, simple boric acid solution is employed and Cystogen is administered internally, five-grain tablet four times daily. This treatment has given satisfactory results, and in gonorrheal cystitis, with urine shreddy, containing pus, this preparation is the most satisfactory he has known.—*Chicago Clinic,* November, 1903.

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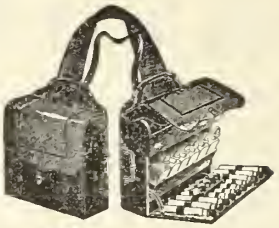

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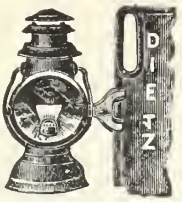

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Case 1.—Mrs. M. W——, widow, aged forty-two, consulted me for nasal difficulty of several months' standing. An examination of the nasal fossæ revealed several very interesting conditions. There were grouped together possibly seven or eight foci of ulceration; some of these spots ran together, presenting more or less of a serpiginous ulceration. Each ulcer was covered with a dirty-gray, ash-colored exudate which adhered firmly to the underlying Schneiderian membrane. I first applied on absorbent cotton a 50-per-cent solution of peroxide of hydrogen, and having removed the purulent secretion sprayed the nose thoroughly with a 25-per-cent solution of Glyco-Thymoline in distilled water. I instructed the patient to report the day following for a renewal of the treatment, and to my surprise found a healthy looking surface in place of a suppurating wound. I repeated the spraying of the nasal fossæ some three or four times more, and complete healing took place, the nose returning to its normal condition within a week's time from the first application.

Case 2.—Mrs. F. K——, married, aged thirty, was brought to me for a disturbance of the throat, which, owing to the fact of a member of the lady's family having recently died of tubercular disease, was a source of much worry and mental anxiety to both the lady and her husband. The tonsils were somewhat congested, and showed upon their surfaces several little points of deposit dipping down into the tonsillar crypts. I immediately sprayed the tonsils with a full-strength solution of

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Glyco-Thymoline, and at the same time gave the lady a six-ounce bottle 50-per-cent strength to use as a gargle. In three days' time she called to get some more of the solution, which she stated was very prompt in relieving her of her troublesome tickling sensation. Upon inspection I found the throat entirely cleansed of all exudates, and the hyperemic appearance of the tonsils was entirely removed, the gland assuming an almost normal hue. I again sprayed the tonsils with full-strength Glyco-Thymoline, and renewed the bottle for her, or rather requested her to have the bottle refilled at the drug store. She called again to see me in a few days, and stated she was entirely relieved of all unpleasant symptoms, and did not think further treatment was necessary. I accordingly dismissed her as cured.—C. H. Powell, A.M., M.D., Professor Principles of Medicine and Clinical Medicine, Barnes Medical College, St. Louis, Mo.

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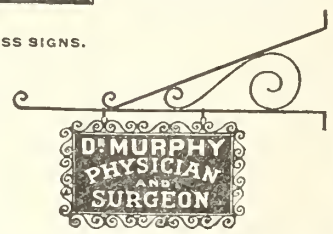

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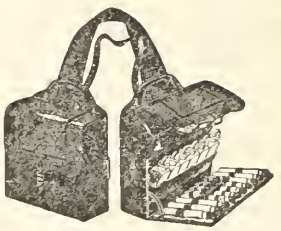

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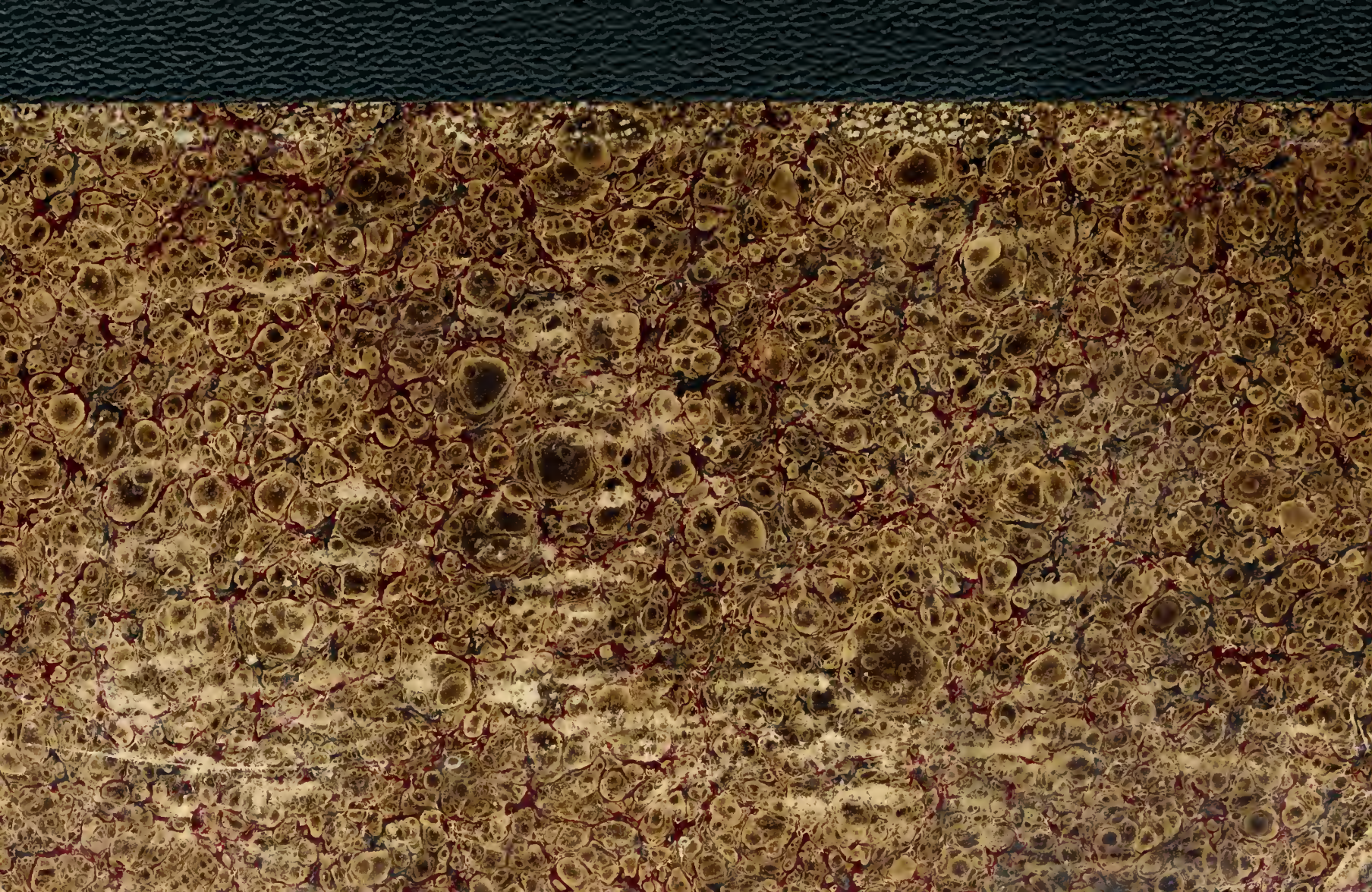
DOUBLEDAY, PAGE & CO., 34 Union Sq., N. Y.

Water-damaged August 1978.
Frozen and vacuum freeze-dried 1979.